

Alaska Statewide Active Transportation Plan



A Vision for Making Alaska's Communities **Safe • Active • Accessible**

Master Plan 2019



Alaska Statewide Active Transportation Plan

Alaska Department of Transportation and Public Facilities

Mike Dunleavy, Governor

John MacKinnon, Commissioner

The 2018 Alaska Statewide Active Transportation Master Plan (ASATP) will help guide the State of Alaska with an updated approach to active transportation planning. It acknowledges the progress that has been made in providing for walking and bicycling in Alaska since the first Bicycle and Pedestrian Master Plan was adopted in 1994, describes the future of active transportation, and sets a framework for how to plan for and measure progress toward a vision for increased and safer active transportation opportunities and activity levels across the state. The plan is consistent with the policies from the Alaska Statewide Long-Range Transportation Plan, and complies with Alaska Statutes and U.S. Federal Regulations.

The purposes of the 2018 ASATP update are:

- To improve safety, increase accountability, and promote healthy lifestyles in our communities.
- To develop a safer and more efficient active transportation network and infrastructure to encourage walking and bicycling.

The Alaska Statewide Active Transportation Master Plan is the product of a collaborative effort between the Alaska Department of Transportation and Public Facilities (DOT&PF), municipal and local governments and public agencies. The planning effort sought public input through a rigorous process that included a Steering Committee, public meetings across the State, and on-line outreach to numerous stakeholders.

The Alaska Statewide Active Transportation Master Plan draws its authority from Alaska Statute 44.42.050 and is a component of the Alaska Long-Range Statewide Transportation Plan as defined in 23 CFR 450.216. I am pleased to adopt the Alaska Statewide Active Transportation Master Plan.

Adopted: 
John MacKinnon, Commissioner

Date: 7.1.19



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People in Alaska will enjoy equitable, accessible, safer walking and bicycling opportunities as an integral part of daily life.

The Alaska Statewide Transportation Plan was prepared together by:



1 Introduction

Since the mid-1990s, the State of Alaska Department of Transportation and Public Facilities (DOT&PF), together with partners and local governments, have committed to improving opportunities for walking and bicycling in Alaska. There is an increasing level of interest in walking and bicycling statewide, both as a mode of transportation and as an opportunity for recreation. DOT&PF has been a proponent of providing space for active transportation within rights-of-way (ROWs). DOT&PF has also supported numerous programs that encourage more people to walk and bicycle to school and work.

DOT&PF and its partners have achieved significant progress in ensuring facilities (both space and surfaces) are provided and walking and bicycling are recognized as legitimate transportation choices since the first Alaska Bicycle and Pedestrian Master Plan was prepared in 1994. This Alaska Statewide Active Transportation Plan (ASATP) is an opportunity to provide an updated approach to active transportation planning for Alaska. It acknowledges the progress that has been made, describes the future of active transportation, and sets a framework for how to plan for and measure progress toward a vision for increased and safer active transportation opportunities and activity levels across the state.

1.1 Why Plan?

The transportation system provides for the movement of people and goods and influences patterns of growth and economic activity by providing access to land. The system caters to a range of transportation modes, including automobile, public transit, rail, air, bicycle, and foot. The performance of the system affects public policy concerns like air quality, environmental resource consumption, social equity, land use, urban growth, economic development, safety, and security.¹ The transportation planning process recognizes the linkages between transportation and wider societal goals, and enables the development of strategies for operating, managing, maintaining, and financing an area's transportation system to advance its long-term goals.

¹Transportation Planning Capacity Building Team, FHWA & FTA. (n.d.) *The Transportation Planning Process Key Issues*. Retrieved from https://www.planning.dot.gov/documents/briefingbook/bbook_07.pdf.

1.2 A Second-Generation Active Transportation Master Plan

The goal of Alaska's first Bicycle and Pedestrian Master Plan was to promote the increased use and safety of bicycling and walking as year-round transportation choices by giving them full consideration in the planning, design, construction, and maintenance of transportation facilities. The 1994 plan was intended to provide a specific focus on bicycles and pedestrians as well as recognition that facilities are also readily useable by other modes of transportation such as in-line skating, equestrians, Nordic skiing, and snowmobiles or all-terrain vehicles (ATVs) dependent on local ordinances and seasons.

Many changes have occurred to the state's transportation system since 1994, and trends have shifted across the western world toward a greater focus on modes that encourage active transportation, particularly walking and bicycling. Changes will continue over the next 20 years and more. The transportation system needs to adapt to changing patterns of use, population growth, economic activity, and technology, while considering ongoing pressures associated with funding new transportation facilities and maintaining existing facilities. The ASATP will address current conditions and future changes and set out a policy framework to foster a transportation system that meets the current and future needs of walkers and bicyclists across Alaska.

The purposes of the 2018 ASATP update are:

- To improve safety, increase accessibility, and promote healthy lifestyles in our communities.
- To develop a safer and more efficient active transportation network and infrastructure to encourage walking and bicycling.

While this plan focuses on facilities for active transportation, it is important to recognize that all transportation users have a responsibility to use the transportation network in a way that respects all modes. This includes abiding by relevant laws and being mindful and vigilant when using the transportation network.



1.3 How is the ASATP Organized?

Federal Highway Administration (FHWA) and DOT&PF public involvement and transportation planning guidance were used in the development of the ASATP. It is organized into the following nine chapters:

Chapter 1: Introduction

Introduces the ASATP, the foundations of statewide active transportation planning in Alaska, the requirements for planning, and an overview of the plan.

Chapter 2: Public Outreach

Describes the process used to engage the public and other stakeholders in the ASATP.

Chapter 3: Vision, Goals Areas, Objectives and Performance Measures

Sets out the ASATP's vision, goal areas, objectives, and performance measures.

Chapter 4: Existing Conditions for Walking and Bicycling in Alaska

Describes the geographic, demographic, and climatic setting for the ASATP and provides an overview of walking and bicycling facilities planning and levels of activity in Alaska.

Chapter 5: Planning Considerations for Active Transportation in Alaska

Presents information on safety trends, transportation equity, environmental considerations for active transportation planning and estimates of the economic benefits of active transportation on health, transportation, and the environment.

Chapter 6: Providing for Walking and Bicycling in the Future

Sets out recommendations for the active transportation network, programs and strategies, transportation funding, opportunities for investment, and investment decision considerations to provide a basis for ensuring that limited financial resources are dedicated to achieving the best possible active transportation network and programs for Alaska.

Chapter 7: Integration with Other Policies, Plans and Programs

Outlines recommended changes to the State of Alaska's policy and procedure framework, how the ASATP fits with the Long-Range Transportation Plan (LRTP) and opportunities for integration with other statewide,

regional/sub-regional, and local agencies, their planning efforts and programs.

Chapter 8: Recommended Next Steps

Sets out recommendations for future statewide active transportation initiatives to encourage continual improvement.

Chapter 9: Investment Decision Considerations

Sets out recommended investment decision criteria to enable objective evaluation of active transportation projects and programs when allotting funding.



Photo 1: Children riding their bikes to the local store, Utqiagvik, Alaska (September, 2017)

1.4 The Long-Range Transportation Plan and Performance-Based Planning

The State of Alaska's LRTP, Let's Keep Moving 2036, is the overall guiding document to provide future policy direction for highways, aviation, transit, rail, marine, pedestrian, and bicycle transportation facilities. It informs area, modal, and metropolitan plans, which then informs the Statewide Transportation Improvement Program (STIP), Airport Improvement Program, and capital and operating budgets. The ASATP is a modal plan focusing specifically on walking and bicycling as transportation modes. It is applicable statewide and addresses system needs and policy requirements for walking and bicycling. The role of the ASATP in relation to the LRTP is shown in Figure 1:



Figure 1: Statewide Planning Process²

The ASATP will support the achievement of the vision and goals articulated in the LRTP and will help DOT&PF and other transportation planning agencies secure funding for active transportation projects and initiatives through the STIP and other funding sources. Further detail on integration with the LRTP is addressed in Section 7.2 and Appendix E.

1.5 Who Will Use the ASATP?

Individuals and organizations who will use statewide active transportation master plans generally fall into five groups:³



Government and Elected Officials

Elected officials involved in approving funding for active transportation facilities, projects, and programs.



DOT&PF

Transportation planners and engineers who carry out the business of planning, designing, constructing, and maintaining DOT&PF facilities.



Other State Agencies

Trail system and park planners, law enforcement, the public health community, and other state agencies that provide trails and other active transportation facilities.



Local and Tribal Government Agencies

Staff at Metropolitan Planning Organizations (MPOs) or other transportation planning organizations, engineers, and planners.



Stakeholders

Advocates and others involved in transportation policy development at the local, regional, and state level.

The early identification of ASATP users helped to determine the stakeholders involved in its development. Stakeholders have assisted by providing data, reviewing draft content, and providing feedback.

² http://dot.alaska.gov/stwdplng/areaplans/lrtp2016/docs/20160906_LRTP_trends_systemanalysis_draft.pdf.

Accessed 6/4/19

³ https://www.planning.dot.gov/documents/Ped-Bike_State_Planning_Handbook.pdf



2 Public Outreach

2.1 Public Involvement

Public involvement for the ASATP was conducted by representatives from the DOT&PF and the consultant team (referred to as “the planning team”). The planning team conducted extensive in-person, live-stream, and online engagement to receive comments and guidance from the public, detailing their current experiences and aspirations for active transportation across the state. In addition, a Steering Committee was established to broadly represent organizations, interest groups, and private citizens with a role in the delivery of active transportation, who contributed to the overall direction of the ASATP and provided additional information and data to support its development.

The ASATP’s vision and recommendations reflect the input of the public and the Steering Committee, and comments and guidance from staff at DOT&PF and other stakeholders. A detailed summary of public involvement activities can be found in Appendix A.

2.1.1 In-Person Meetings

Several in-person events were held across Alaska to share project information and gather comments from the public. Many of these events were streamed using Facebook Live to DOT&PF’s page and additional comments and feedback were gathered using the comments section on the live stream. In-person engagement provided participants an opportunity to learn about how the ASATP was being developed and to provide input. Materials for in-person engagement varied slightly between events, but generally included the following:

- ASATP overview
- Progress update
- Identifying issues and solutions to create a connected active transportation network
- Understanding needs/desires for future active transportation policy at a statewide level
- Vision and goals
- Opportunities for general comments and questions.

In-person engagements were guided by a presentation with the opportunity to ask questions throughout the meeting to discuss specific issues and receive feedback. Comments were captured through meeting notes and participants were also encouraged to provide feedback on comment forms or through the website.



Photo 2: The public met with the planning team in Juneau (March, 2018)



Photo 3: The planning team met with members of the public at the Anchorage Open House (September, 2016)



2.1.2 Online Engagement

The ASATP also included online engagement via a website at **www.akbikeped.com**, which provided:

- Information about the ASATP
- An online comment form, coupled with a sign-up for newsletters and updates
- Upcoming events
- Online streaming of open house events, which linked to DOT&PF's Facebook page

The website was launched in July 2016, and feedback was gathered and considered to shape the ASATP's vision, goal areas, and recommendations. Public input collected through online engagement is included in Appendix A.

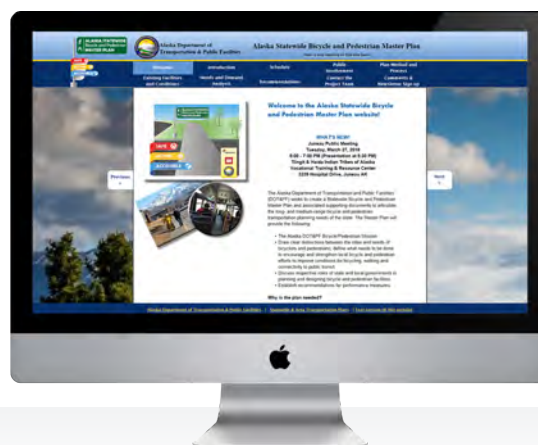


Photo 4: The website at www.akbikeped.com

2.1.3 Steering Committee

A Steering Committee representing a broad range of organizations and interests, was formed to provide input on draft documents and recommendations. Organizations and groups represented at the Steering Committee are shown on Figure 2.

The Steering Committee met four times to develop preliminary goals, objectives, and a vision for walking and bicycling in Alaska. The Committee also reviewed all background materials and provided information and feedback to ensure the quality of the ASATP.



Photo 5: The planning team presents at the Soldotna Senior Center (November, 2016)



Photo 6: The planning team visits schools at Bethel (April, 2017)





Figure 2: Steering Committee Representation

2.1.4 Outcomes

Several key messages were heard during public outreach, including that Alaskans:

- Use and appreciate the significant network for walking and bicycling throughout the state that is present today and recognize efforts being made to improve the network.
- Would like to continue to improve the network by:
 - Making it safer along facilities and at intersections
 - Improving connections by filling in gaps in the network
 - Improving wayfinding, particularly in rural areas
 - Improving trail maintenance in all seasons (i.e., managing snow and dust)
 - Creating longer, connected routes
 - Creating partnerships to provide facilities and improve connections
- Recognize a trade-off between the desire for active transportation facilities and the costs of building and maintaining those facilities.



Photo 7: Bike parking facility at Westchester Lagoon, Anchorage (May, 2019)



3 Vision, Goal Areas, Objectives and Performance Measures

3.1 Vision

The ASATP defines the following vision for walking and bicycling in Alaska as part of the Alaska Statewide LRTP.

“People in Alaska will enjoy equitable, accessible, safer walking and bicycling opportunities as an integral part of daily life.”



DOT&PF has identified goal areas, objectives, and performance measures to deliver the ASATP’s vision, guide transportation decisions, and ensure the effectiveness of transportation investments over the 20-year life of the ASATP.

3.2 Goal Areas

The goal areas identify and describe key matters for focus and improvement over the life of the ASATP. The goal areas are based on input received from public outreach and the Steering Committee, as well as research and input from planning team. The goal areas are:

- **Goal Area One:** Safety
- **Goal Area Two:** Health
- **Goal Area Three:** Maintenance/ System Preservation
- **Goal Area Four:** Connectivity
- **Goal Area Five:** Economic Development

Objectives address these goal areas and achieve the vision of equitable, accessible, and safer walking and bicycling opportunities as an integral part of daily life. Each goal area and the associated objectives are discussed in greater detail in the next section.

3.3 Objectives



Goal Area One: Safety

Improving safety for walkers and bicyclists using the transportation network is a core goal. Seven specific objectives are targeted at improving safety:

- 1.1** Reduce the number and severity of conflicts between people walking, bicycling, and driving.
- 1.2** Design the active transportation network, including roads, to enhance safety for non-motorized users using current state of the practice approaches.
- 1.3** Integrate design criteria that incorporate best practices into local, regional, and statewide design guidance documents and the Alaska Highway Preconstruction Manual (HPM).
- 1.4** Consider provisions for safer active transportation on roadway segments that are being reconstructed or rehabilitated (except for curb-to-curb mill and pave projects).
- 1.5** Improve facilities and wayfinding throughout Alaska to encourage walking and bicycling as transportation modes.
- 1.6** Streamline and improve pedestrian and bicycle data collection efforts across Alaska.
- 1.7** Review statewide laws to improve safety for active transportation on the road network.





Goal Area Two: Health

Active transportation opportunities are an important factor in maintaining a healthy population. They also support DOT&PF's mission of keeping Alaska moving through service and infrastructure, while providing a transportation system that supports Alaska's ability to thrive. Two specific objectives are targeted to improve health:

- 2.1** Collaborate with health care and community service organizations to increase physical activity by providing active transportation options.
- 2.2** Support education and encouragement programs that promote active travel.



Goal Area Three: Maintenance/System Preservation

A key part of delivering the ASATP's vision is maintaining and preserving existing walking and bicycling facilities across Alaska. Four specific objectives are targeted at improving maintenance and system preservation:

- 3.1** Provide safer and more convenient active transportation accommodations provisions during construction activities.
- 3.2** Encourage coordination between transportation organizations to improve maintenance, including winter snow removal on active transportation facilities.
- 3.3** Encourage maintenance consideration of facility in the design of active transportation facilities, recognizing the limited availability of funds to support ongoing maintenance activities.
- 3.4** Encourage expansion of "Adopt a Trail" and "Adopt a Road" initiatives in all communities and with the private sector to support the maintenance of all active transportation facilities.



Goal Area Four: Connectivity

While there is an extensive network of walking and bicycling facilities across Alaska, gaps exist that create impediments to facility use. Five specific objectives are targeted at enhancing connections in the active transportation network:

- 4.1** Identify and address gaps in the non-motorized transportation network, including where facilities need repair to facilitate a connection or for access.
- 4.2** Encourage the use of technology to enhance connectivity and wayfinding.
- 4.3** Support education, encouragement, and enforcement initiatives.
- 4.4** Identify and encourage multi-modal transportation opportunities.
- 4.5** Establish and identify active transportation connections to and through public lands.



Goal Area Five: Economic Development

Improving facilities for all users of the transportation system is correlated with improving economic development. Four specific objectives are targeted at enhancing economic development through the provision of facilities for walking and bicycling:

- 5.1** Encourage facilities for active transportation users on private and public premises.
- 5.2** Establish comfortable and safer active transportation connection to activity centers.
- 5.3** Increase awareness of Alaska's active transportation network.
- 5.4** Create transportation systems that encourage natural movement for daily activities and encourage active transportation, in conjunction with broader community and infrastructure planning and development.








3.4 Performance Measures

Performance measures help DOT&PF to track progress toward achievement of the ASATP's vision, goal areas, and objectives. Performance measures establish a data-driven approach to assessing improvement to the non-motorized network over time. The performance measures use existing data already gathered by DOT&PF, or enable partnerships with other departments and organizations to obtain information to track progress. The expectation is that data will be collected annually for these performance measures, and the measures themselves will be revisited during future updates to the ASATP.

Table 1 defines performance measures by goal area. As well as measuring performance statewide to fulfill national performance management reporting requirements, performance measures can be tracked at a regional level using health region boundaries defined by the Healthy Alaskans 2020 state health improvement plan (HA2020). By tracking performance measure progress at the regional level, greater sensitivity can be applied to the limitations and opportunities that are present in the range of land use contexts found across Alaska. Health regions provide greater granularity for analysis, enable better distinction among land use context, and creates a clear link to other departments in accordance with the health objectives identified as part of the ASATP.

Table 1: Performance Measures

| Goal Area | | Performance Measure | |
|---|---|---------------------|--|
|  | Goal Area One Safety | PM 1.1 | Reduction in the number of fatal or serious injury collisions involving bicyclists and pedestrians in the last five years, as both a rolling average and percentage of total collisions. |
|  | Goal Area Two Health | PM 2.1 | Percent change in average minutes of physical activity per day per capita over a five-year period, as measured by the Alaska Department of Health and Social Services. |
| | | PM 2.2 | Percentage of health regions meeting Healthy Alaska Benchmarks by 2020. |
|  | Goal Area Three Maintenance/System Preservation | PM 3.1 | Miles of roadways adopted through Adopt-a-Road and Adopt a Highway initiatives. |
|  | Goal Area Four Connectivity | PM 4.1 | Miles of state-owned active transportation facilities, including trails, sidewalks, designated bicycle facilities, and road shoulders. |
|  | Goal Area Five Economic Development | PM 5.1 | Number of communities with current active transportation plans and Safe Routes to School programs or plans. |
| | | PM 5.2 | Percent of commute trips completed by walking or bicycling, as determined by American Community Survey data. |



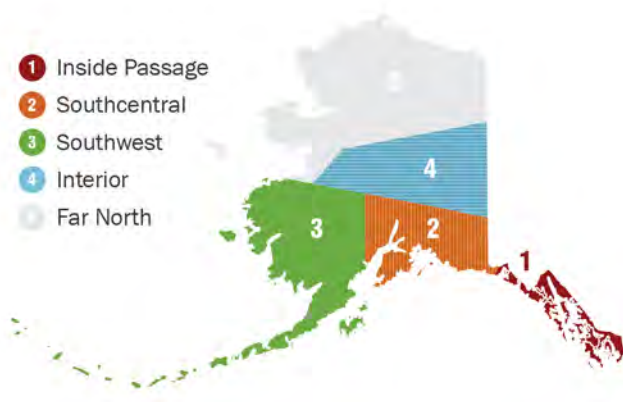
4 Existing Conditions for Walking and Bicycling in Alaska

4.1 Geographic Setting

4.1.1 Geography

Alaska is frequently divided into five regions,⁴ as shown on Figure 3:

Figure 3: Regions of Alaska



Inside Passage

The Southeast Region is also referred to as the Panhandle or Inside Passage, and is the part of Alaska that is closest to the rest of the U.S. The region includes the Alexander Archipelago and Tongass National Forest, the cities of Sitka and Ketchikan, and the capital city of Juneau. The Alaska Marine Highway system provides a vital transportation link through southeast Alaska as only three communities (Haines, Hyder, and Skagway) have direct connections to the contiguous Alaskan and North American road system.

Southcentral

The Southcentral region is the most populous region of Alaska and includes Anchorage, the Matanuska-Susitna Valley, and the Kenai Peninsula. The region also includes rural areas south of the Alaska Range and west of the Wrangell Mountains, Prince William Sound, and the communities of Cordova and Valdez. Much of the rural area of Southcentral Alaska is unpopulated.

Southwest

Southwest Alaska is a sparsely inhabited region that extends approximately 500 miles inland from the Bering Sea. Populations in this region are primarily located along the coast, or the Yukon or Kuskokwim Rivers which cross through the Yukon-Kuskokwim Delta. The region also includes the Aleutian Islands, a chain of more than 300 small volcanic islands extending over 1,200 miles into the Pacific Ocean.

Interior

The Interior is the largest region in Alaska, and much of the area is uninhabited. The region includes Denali National Park and Denali, which is the highest mountain in North America. Fairbanks is the only large city in the region.

Far North

The North Slope region is mostly tundra with interspersed small villages. The area is known for its large reserves of crude oil and includes the National Petroleum Reserve – Alaska and the Prudhoe Bay Oil Field. The city of Utqiagvik, which is the northernmost city in the U.S., and Kotzebue are located in the North Slope region.

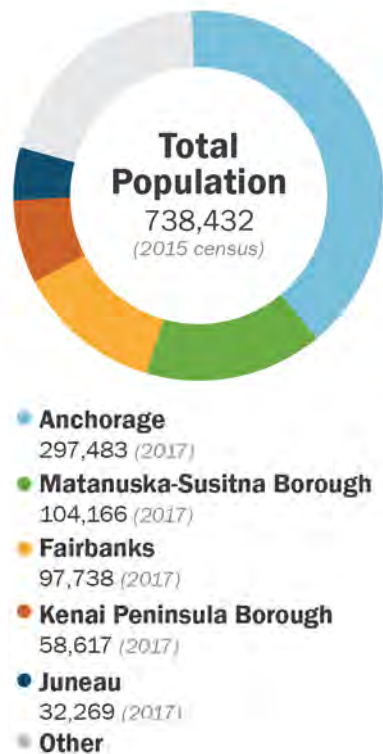
⁴ <http://alaskaweb.org/regionmap.html> Accessed 6/6/19.



4.1.2 Population

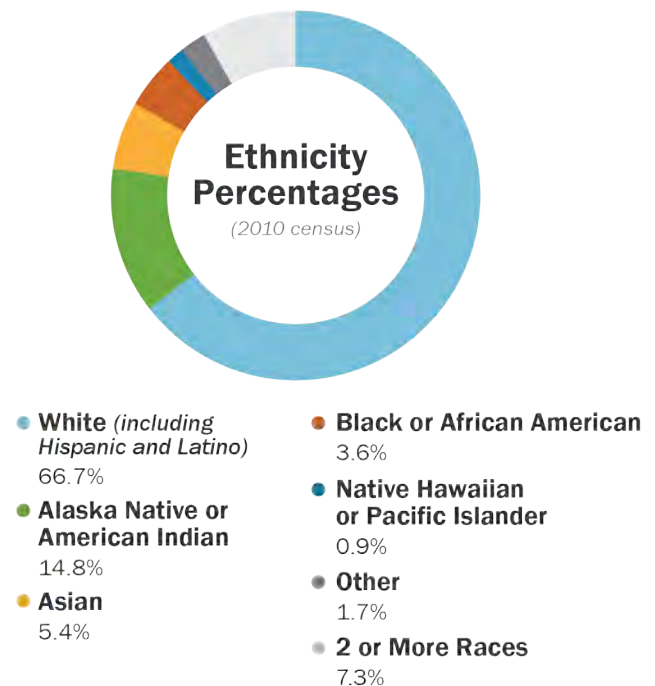
The U.S. Census Bureau estimates the population of Alaska in 2017 was 739,795. It is the 47th largest state by population, and the least densely populated. The largest city is Anchorage, with an estimated population in 2017 of 297,483, followed by the Matanuska-Susitna Borough with an estimated population of 104,166.

Figure 4: Total Population of Alaska



Other notable population centers include Fairbanks North Star Borough, with an estimated population of 97,738; Kenai Peninsula Borough, with an estimated population of 58,617; and Juneau, with an estimated population of 32,269. Total ethnicity percentages according to the 2010 U.S. Census of race and ethnicity are summarized in Figure 5.

Figure 5: Total Ethnicity Percentages



4.1.3 Climate

Alaska's climate varies across the state's regions but is generally cool with moderate levels of precipitation. An extratropical storm track runs along the Aleutian Island chain, across the Alaska Peninsula and along the coastal area of the Gulf of Alaska which exposes these areas to storms crossing the North Pacific. The climate in Juneau and the southeast panhandle is a mid-latitude oceanic climate in the southern sections and a subarctic oceanic climate in the northern parts. Southcentral Alaska experiences a subarctic climate with short, cool summers. The Interior region

experiences a greater range of extreme weather conditions, is a true subarctic climate, and the highest and lowest temperatures recorded. The Far North region experiences an arctic climate with long, cold winters and cool summers where snow is possible year-round. These climatic conditions present challenges for active transportation across Alaska, but notwithstanding the weather extremes, many people have adapted to walking and bicycling year-round throughout the state.



4.2 Existing Walking and Bicycling Activity

Levels of walking and bicycling in Alaska rank highly when compared to the rest of the U.S. This statistic is surprising given the sparse development pattern in Alaska and the long, cold winters, but it appears to be primarily driven by a combination of dense development

in rural villages, a very limited road network, high gas prices, and a relatively young population when compared to the rest of the U.S. Key statistics for walking and bicycling in Alaska are captured in Figure 6.

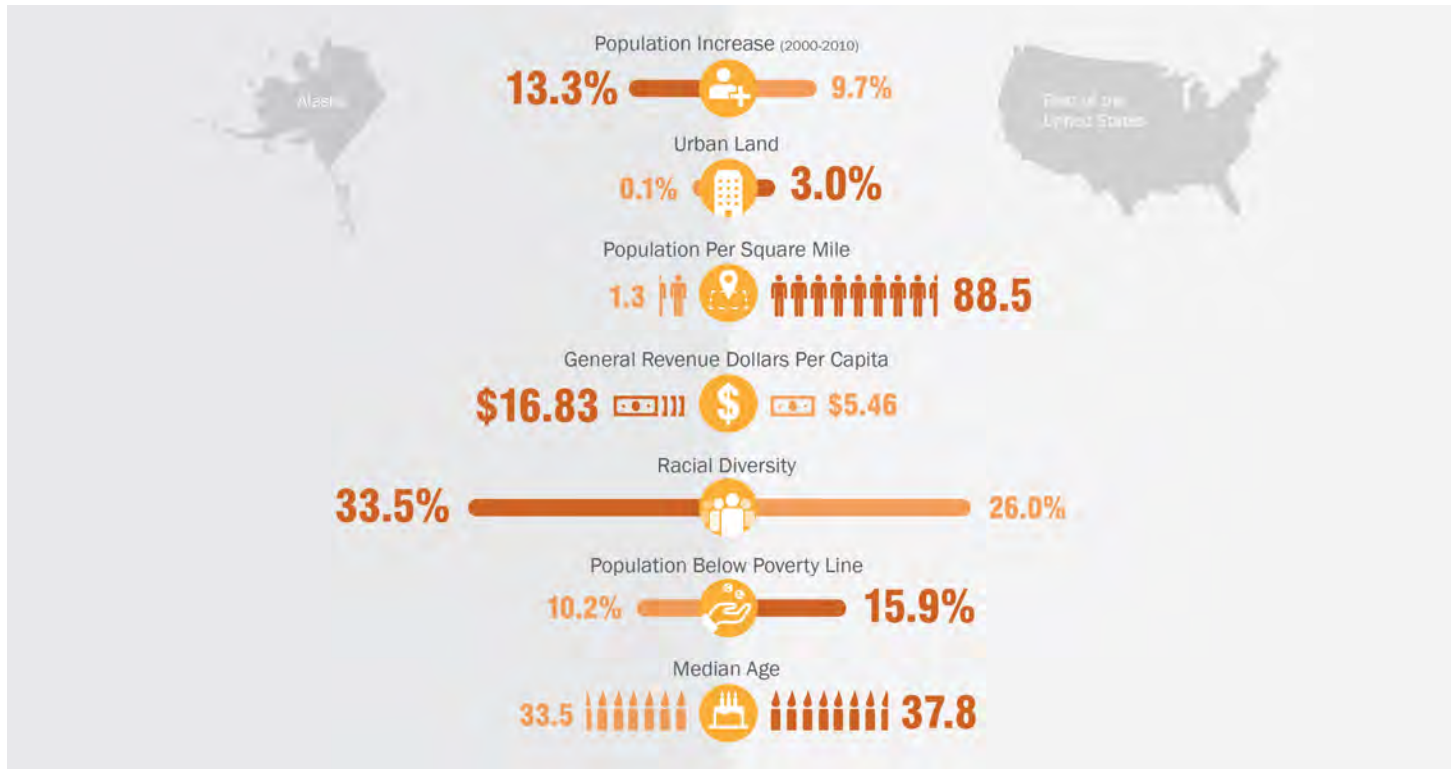


Figure 6: Population Comparisons: Alaska vs. Rest of U.S.⁵

These statistics are notable as they identify the following demographic trends:

- Alaska's population increased at a rate above the U.S. average between 2000 and 2010. This growth rate may have leveled out or declined since 2014 because of a reduction in oil and gas activity in Alaska.
- Alaska's percentage of urban land is substantially lower than the average of all states, which correlates with the state having the sparsest population density in the U.S.
- The general revenue dollars per capita allocated to Alaska is significantly higher than the average of all states.

- Alaska has a higher percentage of people of color than the average of all states. Alaska has a significant Alaska Native population, and many Alaska Native people live a subsistence lifestyle in rural Alaska.
- Alaska has a lower percentage of the population living below the poverty line than the average of all states. However, the cost of living in Alaska, and particularly in rural Alaska, is high.
- Alaska's median age is lower than the average of all states.

These demographic factors impact walking and bicycling activity. Alaskan commuters rank well in walking and bicycling activity when compared to other U.S. states as shown in Figure 7.

⁵ Alliance for Walking and Bicycling. (2016). *Bicycling and walking in the U.S.: A benchmarking report*. Retrieved from <https://www.aarp.org/content/dam/aarp/livable-communities/documents-2016/2016-WalkingBicyclingBenchmarkingReport.pdf>.





Figure 7: Alaska Active Transportation Rankings⁶

Alaska ranks highly for the number of people walking and bicycling daily for commute trips and on the amount spent on walking and bicycling projects. The data collected from the Alliance for Walking and Bicycling's 2016 Benchmarking Report references 'commuters', but there is no differentiation between commuter trips and recreational trips when data is collected.

4.3 Existing Facilities for Walking and Bicycling

Since the first Alaska Bicycle and Pedestrian Plan was completed in 1994, the state has made significant progress in providing facilities to accommodate pedestrians and bicyclists both within the ROW and adjacent to roadway facilities.

4.3.1 Commissioner Policy Directive on Bicycle and Walking Facilities Memorandum (June 7, 1995)

In June 1995, the Commissioner of the DOT&PF directed: "it is the policy of the department that accommodations for bicyclists and pedestrians be considered and implemented for all of our highway projects." Exceptions to this policy must be approved by the Commissioner on a case-by-case basis.

The policy directive was in support of a memorandum by former Governor Tony Knowles, which cites that in addition to providing the best possible system for motorized vehicles, provisions for pedestrians and bicyclists are integral components of a good transportation system. It states the policy of the administration is that "accommodations for both bicyclists and pedestrians shall be included in the design for all projects, including those under construction, where reasonably possible and shall be constructed where economically feasible." The memorandum further notes that "with few exceptions, every road is a potential pedestrian walking/bicycle way. By fully considering bicycles and pedestrians in our designs, we serve not only them, but motorists as well."

In September 1996, DOT&PF Planning staff issued a memo proposing procedures for Planning to be involved in the review and implementation of bicycle/pedestrian accommodations on all new project development and for previously designed projects to receive the necessary considerations. The memo further proposed that following the review of proposed procedures by the affected regional staff, the procedures would be incorporated into revisions of Chapter 4 (Project Development) of the HPM.

⁶ Alliance for Walking and Bicycling, 2016 Benchmarking Report.



Collectively, the memoranda provide strong direction and a foundation that supports increased accommodation of pedestrian and bicycle travel, and they show a commitment to ensuring the provision of active transportation facilities that has the potential to spread to borough and local government agencies.

4.3.2 Highway Preconstruction Manual

The HPM is DOT&PF's guidance document for development and designing highway and road projects in Alaska. It covers both federal and state-funded projects.

Chapter 4 of the HPM addresses the Project Development Process. Section 450 addresses Preliminary Engineering through Final Plans, Specifications and Estimates (PS&E), and requires as part of the Design Study Report (DSR) that pedestrian and bicycle accommodations, including provision for accessibility by people with disabilities is a section of the DSR (Section 450.5.1 Item 14). In addition, Figure 1100-2(A) Project Design Criteria for New Construction and Reconstruction Projects also requires non-motorized inputs for every design.

Chapter 11 of the HPM addresses highway design and requires designers to use the American Association of State Highway and Transportation Officials (AASHTO) Guide for the Development of Bicycle Facilities 2012 as modified by the HPM in the design of new construction and reconstruction projects. Due to the 1995 Directive, the DOT&PF wrote and adopted a new Chapter 1200 to the HPM to improve direction for non-motorized facilities. Chapter 12 addresses non-motorized transportation, with bicycle facilities addressed in Section 1210. Section 1220 is reserved and not yet developed for pedestrian facilities, and a further Section 1230 is reserved for other non-motorized facilities.

Section 1210 (Bicycle Facilities) requires facilities design to use the AASHTO Guide for the Development of Bicycle Facilities 1999, as modified by the HPM. It further notes that if there is a conflict between the AASHTO Guidance and the ATM for striping and signing, the ATM should prevail. Section 1210.2 deals with waivers from developing facilities for bicycles, which notes there may be situations where use of full design

criteria will price the improvement beyond reasonable cost. It provides guidance for facilities development and costing to enable the approval of a bicycle facility using below-minimum design criteria through a waiver process. The section also provides guidance for when a waiver is necessary for the elimination (as opposed to reduction) of a facility that is normally required under the guidelines of the section. It notes that a full waiver requires the endorsement of the regional preconstruction engineer or chief engineer, and the approval of the Commissioner. Section 1210.4.2 directs designers to use Selecting Roadway Design Treatments to Accommodate Bicyclists, FHWA publication RD-92-073 to determine all shared roadway facility configurations. This publication sets out recommended roadway treatments and widths to accommodate bicycles, and details minimum and desirable facility widths based on a range of factors including the types of users, traffic volumes, average motor vehicle operating speed, traffic mix, on-street parking, sight distance and the number of intersections.

4.3.3 Active Transportation Facilities

The provision of facilities for pedestrians and bicyclists provides a signal to motorists that non-motorized travelers have a legitimate right to be in and use the ROW. Alaska has spent substantial capital dollars to improve conditions for non-motorized users throughout the state and the progress is worthy of recognition and celebration. Although this list is not intended to be exhaustive, active transportation accommodations that have been incorporated into the roadway network in Alaska include some of the following:⁷

- Separated pathways along urban and rural highways
- Highway modernization projects that have created paved shoulders suitable for active transportation
- Improved intersection designs, including intersections that incorporate countdown pedestrian heads
- Grade-separated crossings of major roadways and other appropriate crossing treatments
- In-street bicycle lanes in high-use areas
- Construction of new sidewalks, often separated from the vehicle lanes

⁷ Thomas, S.E., (2018). HSIP Ped/Bike Crash Update 2018 CR Design Practice. DOT&PF Internal Memorandum.



- Accessible sidewalk curb ramps and facilities
- Appropriate lighting, signage and striping.

There is currently no statewide inventory, map or database showing the location of walking and bicycling facilities in Alaska. Several borough, city and local transportation planning organizations have their own inventories and maps of active transportation facilities, but the format and age of these is variable.

4.4 Existing Planning for Walking and Bicycling

Alongside the 1994 Alaska Bicycle and Pedestrian Plan, MPOs and some municipalities, cities, boroughs, and communities have prepared transportation plans, non-motorized transportation plans, or comprehensive plans that provide guidance and are supportive of walking and bicycling in Alaska. The following sections provide a high-level summary of plans and guidance across the state.

4.4.1 Anchorage

Transportation planning for Anchorage is led by the Anchorage Metropolitan Area Transportation Solutions (AMATS), which is the local MPO for the Anchorage Bowl. AMATS activities are guided by the Metropolitan Transportation Plan (MTP), which includes policies relevant for all surface transportation. Anchorage has prepared transportation plans and non-motorized transportation plans for several years which guide the development of non-motorized facilities in Anchorage, Alaska's largest city and center of population. Existing plans include:

Anchorage Pedestrian Plan 2007

The Anchorage Pedestrian Plan has a stated goal to *"double the number of pedestrian trips made by Anchorage residents while simultaneously reducing the number of injuries from pedestrian-vehicle crashes."* The overall goal is supported by seven individual goals, focused on safety, mobility, crash rates, connectivity, design and development patterns, and awareness of the importance of walking and bicycling for health. These goals are supported by a range of policies and action item recommendations. The Anchorage Pedestrian Plan will shortly be superseded by the Anchorage Non-Motorized Transportation Plan.

Anchorage Bicycle Plan 2010

The purpose of the Anchorage Bicycle Plan is *"to expand the bicycle infrastructure and the use of bicycles for transportation."* The plan was developed to promote and expand the comprehensive bicycle network of on- and off-street bicycle infrastructure in Anchorage, to integrate bicycle travel into the overall transportation planning process, and promote the use of the bicycle as a legitimate mode of transportation. The overall goal of the plan is to *"double the amount of utility bicycling while reducing the number of bicycle crashes by one-third."* This goal is supported by six additional goals, focused on connectivity, safety, network, greater public awareness and understanding, providing support facilities, and educating the public. The Anchorage Bicycle Plan will shortly be superseded by the Anchorage Non-Motorized Transportation Plan.

Anchorage Non-Motorized Transportation Plan

The Non-Motorized Transportation Plan is a comprehensive effort to examine the opportunities to increase and expand multi-modal facilities for both recreation and transportation throughout Anchorage. The draft vision is: *"Anchorage is a world-class city that has an integrated network of routes accessible for people of all ages and abilities to walk, roll or glide safely on trails and streets."* The vision is supported by a range of goals and objectives focused on increasing use of the non-motorized system, health and quality of life, safety and security, maintenance, connection, measurability, education, and involvement. The draft plan is intended to be made available for public comment during Spring 2019 and approved by the end of Summer 2019.



Photo 8: Commuter bicyclist in Anchorage (May, 2019)



Anchorage's street and trail networks is mapped through the municipality's geographic information system and available to the public both digitally and as a single-page Anchorage trail map. AMATS also has an established Bicycle and Pedestrian Advisory Committee, which assists with educating the public about pedestrian and bicycle safety.

4.4.2 Matanuska-Susitna Borough

The Matanuska-Susitna Borough's LRTP was adopted in December 2017, with the purposes of establishing community goals for the transportation system, planning and recommending strategies for all modes of travel, developing transportation system improvements, and developing a list of roadway improvements and a short-term implementation strategy. The plan sets out a range of goals and strategies addressing all transportation modes. The most applicable goal for bicycling and walking is providing transportation choices and associated strategies, including developing a policy for all-terrain and off-road vehicle use, developing an active transportation master plan, adopting a policy requiring pedestrian and bicycle improvements near and along transit corridors, and improving awareness of transportation choices. The Matanuska-Susitna Borough does not currently have a geographic information system of non-motorized facilities and trails. A Mat-Su bicycle map is currently being developed.



Photo 9: Commuter bicyclist in Nome, Alaska (April, 2017)

4.4.3 Fairbanks

Transportation planning for Fairbanks is led by Fairbanks Area Surface Transportation Planning (FAST Planning), formerly known as Fairbanks Metropolitan Area Transportation System (FMATS). FAST Planning is the local MPO for the urbanized area of Fairbanks North Star Borough, including the cities of Fairbanks and North Pole. FAST Planning's activities are guided by the MTP, which includes policies relevant for all surface transportation. The first Non-Motorized Transportation Plan was developed in 2012, which recognizes there has been a resurgence in interest in non-motorized travel, spurred by a desire for better health, transportation options, environmental quality, and access. The plan includes a detailed vision targeting an increase in the number of people walking and bicycling and an improvement in facilities. In addition to the Non-Motorized Transportation Plan, FAST Planning has also adopted a Complete Streets Policy with the goal of creating a complete network of roads that serves all users. FAST Planning has extensively mapped existing and proposed pedestrian and bicycle facilities in its Non-Motorized Transportation Plan, and this information is available in a geographic information system. As part of its Non-Motorized Transportation Plan, FAST Planning worked with DOT&PF to develop a Non-Motorized Design Tool Kit. FAST Planning also has an established Bicycle and Pedestrian Advisory Committee, which assists with educating the public about pedestrian and bicycle safety. FAST Planning has applied to the League of American Bicyclists for status as a bicycle-friendly community and is working to address deficiencies in the transportation network to enable it to achieve this status.

4.4.4 Kenai Peninsula Borough

Kenai Peninsula Borough (KPB) incorporates the Kenai Peninsula and some parts of mainland Alaska on the western side of Cook Inlet. The overarching planning document is the Comprehensive Plan 2005, which is the subject of a 2018 update. KPB has a 1998 Trails Plan, which presents major trail-related issues for KPB and identifies community priorities for trail actions. Several city plans are adopted as elements of the KPB Comprehensive Plan. Incorporated cities within the borough have their own comprehensive plans. The City of Soldotna has a Recreation and Trails Master Plan (2014), and the City of Homer has a Non-Motorized Transportation and Trails Plan (2004) which maps bicycle and pedestrian facilities within the City.



4.4.5 Juneau

The City and Borough of Juneau (CBJ)'s Community Development Department is responsible for plan development for Juneau. The overarching planning document is the Comprehensive Plan 2013. A range of transportation plans have also been developed, including a 2001 Areawide Transportation Plan and a 1997 Non-Motorized Transportation Plan. The plan includes maps of existing and proposed non-motorized transportation facilities.

4.4.6 Southeast Alaska

Transportation planning in southeast Alaska is undertaken by multiple organizations, including DOT&PF South Coast, other state and local government agencies, and tribal government entities. Larger communities have comprehensive plans and transportation plans that include non-motorized elements. Sitka is a notable city in southeast Alaska due to its recognition by the League of American Bicyclists as a Bicycle Friendly Community. The city was initially recognized as a bronze level community in May 2008, and in May 2016, it moved up to the silver level. Sitka is also recognized as a bronze level Walk-Friendly Community, and it is the only community recognized with this status in Alaska. Sitka has a Non-Motorized Transportation Plan (2003) and associated maps showing an inventory of existing facilities.

4.4.7 Rural Alaska

Transportation planning throughout rural Alaska is undertaken by a range of organizations, including DOT&PF, local government, and tribal government entities. Some of the larger hub cities have comprehensive plans and transportation plans for their cities and regions that include non-motorized elements such as provision for walking, bicycling, and trail facilities.

Transportation systems provide for various modes of transportation including aviation, surface and marine using vehicle fleets such as ATVs, four-wheelers, bicycles, walking, dog sleds, automobiles, boats, and planes. Rural communities typically have a small local road, community trails, a barge landing, and an airport. Some rural communities rely solely on boardwalks (boardroads) and community trails as they do not have conventional roads for automobiles. Residents in rural Alaska typically walk to access



Photo 10: Bicyclists and walkers on Bike to Work Day (May, 2019)

public facilities such as schools, grocery stores, and medical facilities. For longer distances, air travel is common. Hub communities such as Bethel, Dillingham, Kotzebue, King Salmon, and Nome have high levels of pedestrian activity due to residents from other villages visiting without access to a motorized vehicle. Active transportation facilities exist in hub communities, but they are most frequently provided on the shoulder of road facilities and are also used by ATVs and snow machines.

Extensive trail networks across rural Alaska provide connections between communities and the river systems. Primary users of the trail networks are ATVs, snow machines and dog sleds. Trails are both seasonal (on ice) and four-season (on ground). Trail maps are available for winter trails and connector routes in the Yukon-Kuskokwim Delta, North Slope Borough, and Northwest Arctic Borough. Other trails exist throughout the state, but maps are not currently available.



5 Planning Considerations for Active Transportation in Alaska

5.1 Safety Trends and Planning Efforts

5.1.1 Why is Safety Important?

Safety is a core goal as it supports initiatives to reduce serious injuries and fatalities arising from the transportation system.⁸ Non-motorized transportation safety is an important key priority for the USDOT, and this is carried through to the ASATP as one of its key goal areas. The ASATP provides an opportunity to coordinate statewide active transportation planning with ongoing statewide safety analysis and programs conducted by DOT&PF, including the Strategic Highway Safety Plan (SHSP).

5.1.2 Alaska Strategic Highway Safety Plan

The SHSP is a statewide, coordinated safety plan that provides a comprehensive framework for reducing highway fatalities and serious injuries on all public roads. It uses a data-driven approach to analyze the state's key safety needs, and guides investment decisions towards strategies and countermeasures with the greatest potential to save lives and prevent injuries.

The SHSP data analysis process identifies several safety emphasis areas and strategies and priorities for addressing safety concerns within those emphasis areas. Pedestrians and bicycles are emphasis areas in Alaska's SHSP.

The 2018 revision of the Alaska SHSP retained the framework of the four Es of safety – Engineering, Enforcement, Education, and Emergency Response. DOT&PF completed the update of the SHSP in December 2018, which incorporated requirements from the federal FAST Act law.

5.1.3 Alaska Highway Safety Improvement Program

The HSIP is a core federal-aid program with the purpose of achieving a significant reduction in fatalities and serious injuries on public roads. The HSIP identifies high-risk intersections and roads, scopes and prioritizes corrective projects, funds the most cost-effective projects, and evaluates actual project and program effectiveness. HSIP dollars are distributed to the most effective projects from a single statewide fund. The purpose of the Alaska HSIP is to “*maximize lives saved and major injuries eliminated per dollar spent.*”

The HSIP includes pedestrians and bicyclists as HSIP-related SHSP emphasis areas, and a range of projects are identified targeting improvements for non-motorized transportation. In addition to projects identified in the HSIP, many projects are underway or have been completed through the HSIP that have provided a range of non-motorized facilities throughout Alaska including pedestrian islands, pedestrian refuges, and countdown timers at signalized intersections.

5.1.4 Non-Motorized Crash Data

State non-motorized crash data is maintained by DOT&PF and is drawn from police reporting data. It relies on crashes being reported to police. There is relatively limited data available for rural Alaska, and it is likely that non-motorized crashes are under-reported because of a limited police presence. The data only reflects crashes where a motor vehicle is involved, so it excludes incidents where pedestrians and bicyclists have fallen or injured themselves due to facilities, and collisions with other pedestrians and bicyclists.

⁸ FHWA (2017). <https://safety.fhwa.dot.gov/tsp/fhwasa16116/mod1.cfm> Accessed 6/6/19.





Pedestrians

Data on statewide pedestrian crashes is drawn from the statewide crash database and covers the years 2000 to 2015. Raw data on all vehicular crashes is sorted to single out crashes that involve pedestrians and to sort by location, area, and where available, region to understand the most frequent crash locations (95th percentile and 75th percentile for crash frequency). These locations then form the focus for interventions and improvements.

The graph in Figure 8 shows the total number of crashes between pedestrians and motor vehicles between 1977 and 2015. This data demonstrates that crashes involving pedestrians and motor vehicles has been trending downwards for several years. The impact of the 1995 Memorandum is also shown in this figure, but the positive impact on pedestrian crashes and fatalities is less obvious than the impact on bicycle crashes and fatalities (see Figures 8 and 9). A focus on planning for pedestrian facilities, ensuring the provision of improved pedestrian facilities and a greater awareness of pedestrians on the transportation network is likely to help improve the rate of pedestrian crashes currently experienced in Alaska.

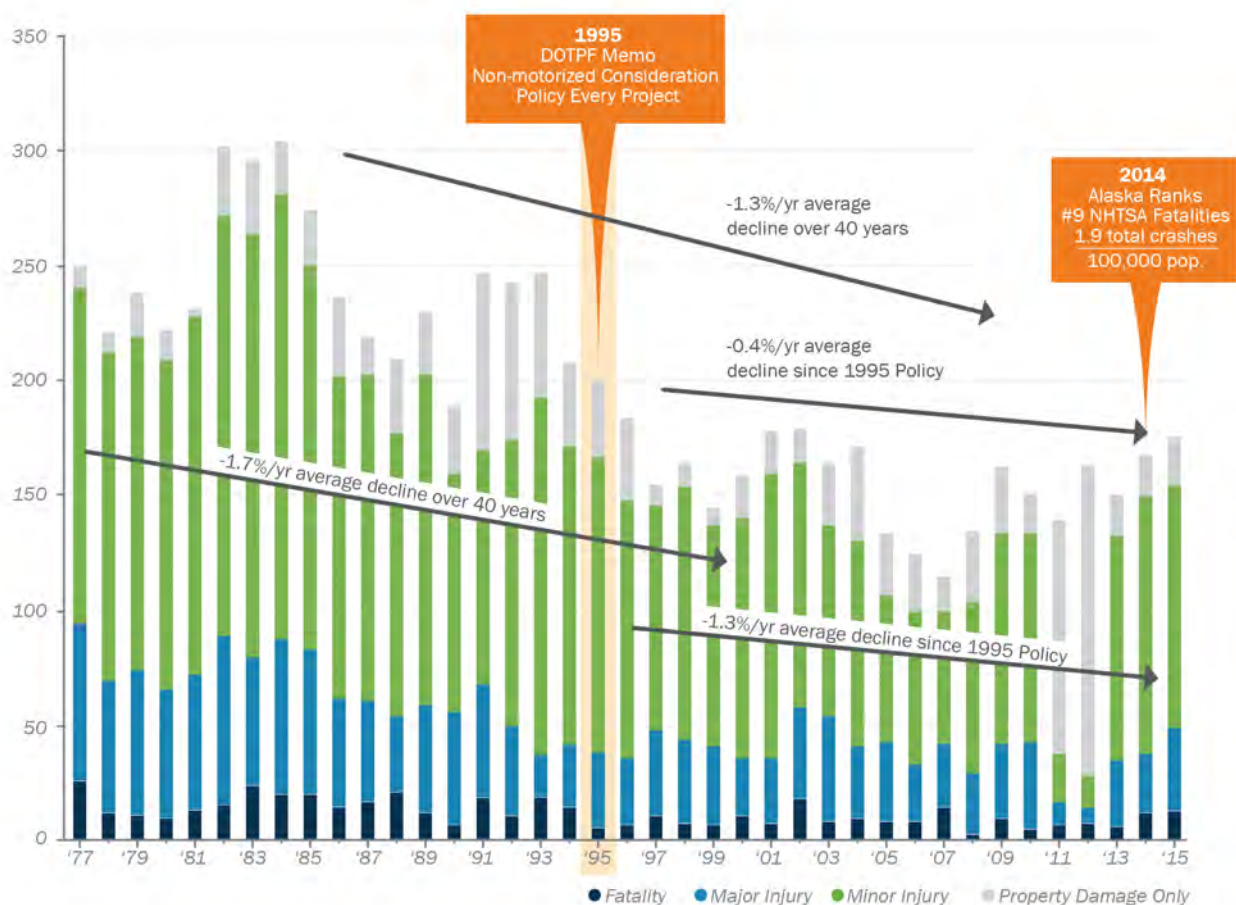


Figure 8: Statewide Pedestrian-Vehicle Crashes 1977-2015





Bicycles

Data on statewide bicycle crashes is drawn from the statewide crash database and covers the years 2003-2015. Raw data on all vehicular crashes is sorted to single out crashes that involve bicycles and to sort by location, area, and where available, region to understand the most frequent crash locations (95th percentile and 75th percentile for crash frequency). These locations then form the focus for interventions and improvements.

Data are also available for the number of fatal and serious injury crashes between bicycles and motor vehicles between the years 1977 and 2015, as shown in Figure 9. The DOT&PF is aware there are an increasing number of bicyclists on the road, but the total numbers of severe crashes are trending downwards. This is a positive trend and is notably linked to improved provision of space for bicyclists on transportation facilities, as required by the 1995 Memorandum.

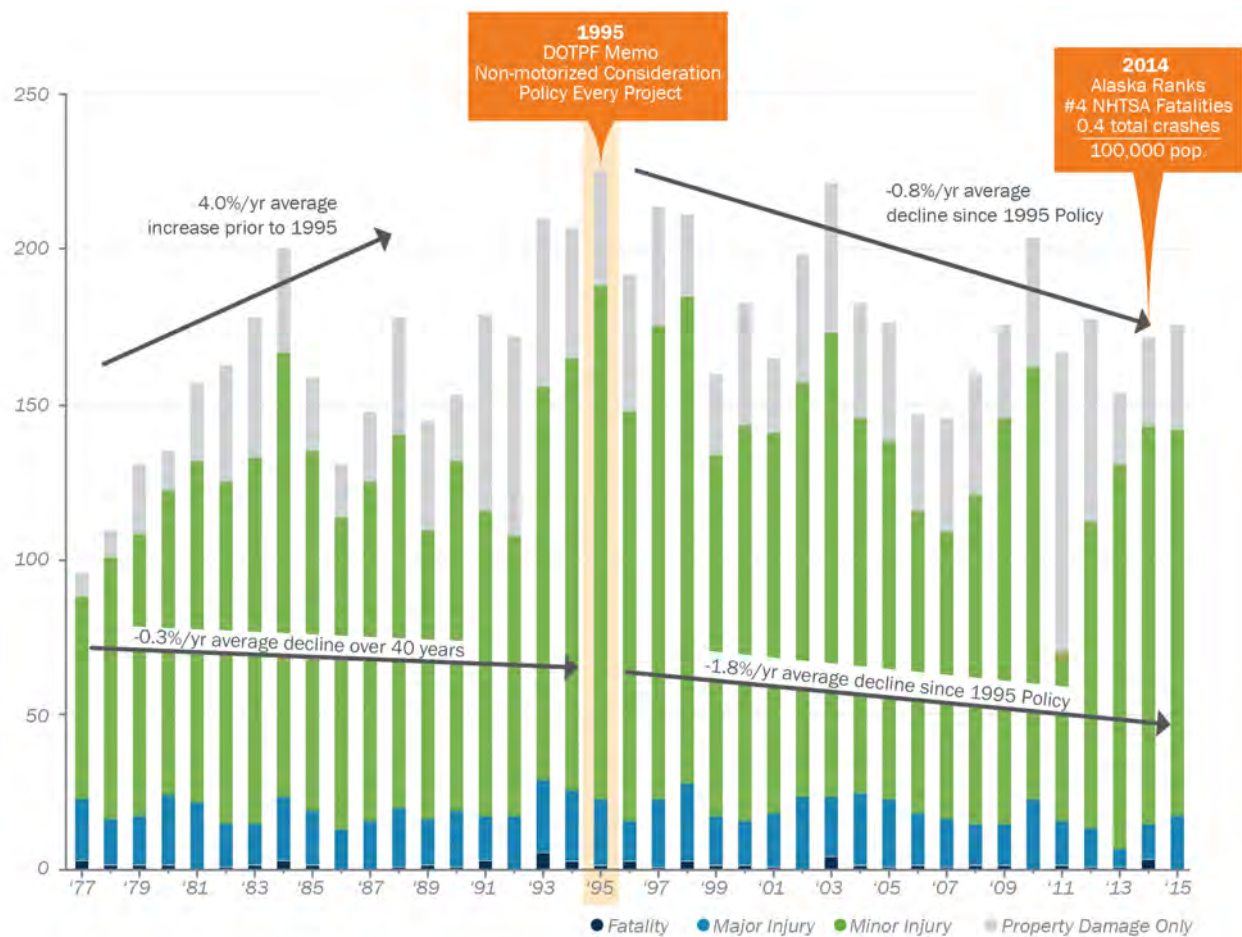


Figure 9: Statewide Bicycle-Vehicle Crashes 1977-2015



5.1.5 Personal Safety and Security

The crash data demonstrates that there are opportunities for intervention based on infrastructure improvements. In addition, personal safety and security are key considerations when evaluating safety for active transportation networks. Factors such as lighting, visibility, and access control can impact real and perceived safety and security for pedestrians and bicyclists, particularly in the dark winter months.

Improved personal safety and security may be affected by local-level decisions, such as design standards and development policies. For this reason, it is recommended that jurisdictions evaluate existing policies, standards, and practices that influence personal safety and security. For example, Crime Prevention through Environmental Design (CPTED) offers evaluation techniques and key action items to create an environment that supports personal safety and security. Jurisdictions should consider, for example, adopting a policy that is consistent with CPTED.

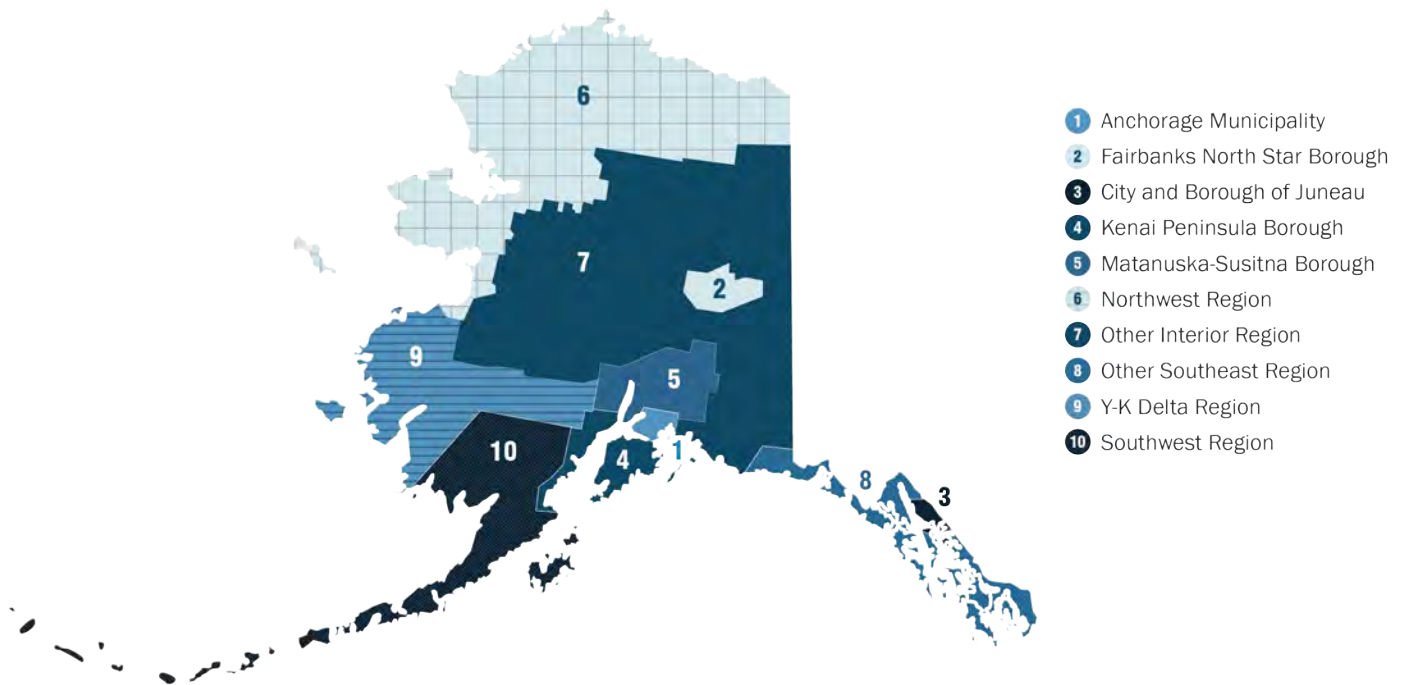
5.2 Health Trends and Planning Efforts

5.2.1 Why is Health Important?

Active transportation has a considerable impact on individual and community health and wellness. The development and promotion of a safer and more connected statewide active transportation network will help DOT&PF and other agencies create opportunities for greater physical activity through transportation, and thereby support a reduction in the rates of chronic disease and preventable injuries.

In the U.S., chronic disease is the leading cause of death and disability and it is associated with approximately 70 percent of deaths each year.⁹ In Alaska, six out of ten of the leading causes of death are due to chronic conditions, of which Alaska Native people experience disproportionately high rates.¹⁰ Increasing physical activity levels is one of the most effective ways to reduce the risk of chronic diseases and related risk factors. Research

Figure 10: Alaskan Behavioral Health Regions



⁹ Office of Disease Prevention and Health Promotion. (2017). General Health Status. Retrieved from <https://www.healthypeople.gov/2020/about/foundation-health-measures/General-Health-Status#chronic>.

¹⁰ The Alaska Bureau of Vital Statistics. (2015). Top Ten Leading Causes of Death for Alaska. Retrieved from http://dhss.alaska.gov/dph/VitalStats/Documents/stats/death_statistics/leading_causes_census/frame.html.











































| Health Indicator (Disease) | | Obesity | Overweight | Limited Physical Activity | Pedestrian Mortality | Diabetes | Coronary Heart Disease | Breast Cancer | Prostate Cancer | Depression |
|----------------------------|------------------------------|---|---|---|---|---|---|---|---|---|
| 1 | Anchorage Municipality | |  | |  |  |  |  |  | |
| 2 | Fairbanks North Star Borough | | |  | | | |  | |  |
| 3 | City & Borough of Juneau | | |  | | | | |  |  |
| 4 | Kenai Peninsula Borough | | |  | | | |  | | |
| 5 | Matanuska-Susitna Borough |  | |  | |  | | |  |  |
| 6 | Northwest |  | | | |  | |  | | |
| 7 | Other Interior | | |  | |  |  |  | | |
| 8 | Other Southeast |  |  |  | |  |  |  | | |
| 9 | Yukon-Kuskokwim Delta | | | |  | | | | | |
| 10 | Southwest |  | |  |  |  |  |  |  | |

Table 2: Regions Exceeding the State Average for Health Indicator Prevalence
(Exceeding the indicator is a sign of disease and is therefore considered an adverse health outcome)

shows that health behaviors, the physical environment, and social and economic factors account for 60 to 75 percent of the health factors that contribute to shaping health outcomes, which can all be impacted by physical activity.¹¹ Improving opportunities for increased physical activity may improve health outcomes for residents impacted by these risk factors.

To better understand the health impacts facing Alaska residents, data on a series of health outcomes and indicators was evaluated. These factors were selected based on two considerations: factors known to be positively affected by increased physical activity, and factors identified in the HA2020 state health improvement plan.

The HA2020 plan established benchmarks for a series of 25 indicators that allows Behavioral Health Regions in Alaska to track progress over time and in relation to other regions.

Assessing data at the Behavioral Health Region scale allows this plan to not only connect to the HA2020 initiative, but it also provides a more nuanced view of concerns, given the size and varying context across the state. To best realize the benefits that physical activity can have for people in Alaska, local, regional,

and statewide active transportation infrastructure must be designed in consideration of the unique opportunities and constraints of geography, weather, and culture of the state. As part of this context, the unique health challenges facing each region should also be considered.

Detailed methodology and results can be found in Appendix B. The health analysis confirmed:

- Many behavioral health regions are doing well compared with state and national averages for several of the health indicators analyzed.
- Rates of pedestrian mortality, obesity and being overweight, breast cancer, diabetes, coronary heart disease, depression, and unintentional injury are particularly high in certain regions of the state. This is a sign of adverse health outcomes in these regions.
- Alaskan Native populations may be more affected by adverse health outcomes compared to the general population.

Table 2 above summarizes the health indicators (diseases) for each region that have prevalence rates above the state average for all Alaskans. The ASATP presents a unique opportunity to support the

¹¹ University of Wisconsin Population Health Institute. (2017). County Health Rankings: Our Approach. Retrieved from <http://www.countyhealthrankings.org/our-approach>.



achievement of improved physical, mental, and social health across the state, through increased access and opportunities for walking and bicycling. Active transportation investments are a cost-effective method to reduce the prevalence of each of these highly preventable risk factors and health concerns and help meet HA2020 goals.

5.3 Transportation Equity Considerations

Transportation Needs and Equity

5.3.1 Access to affordable and reliable transportation is essential to support addressing poverty, unemployment, and other equal opportunity goals such as access to good schools and health care services. This section considers state profiles and identifies potential barriers to transportation equity, including to what extent people, jobs, and destinations are served by active transportation facilities and what the barriers are to their use. It further considers how active transportation can be provided in Alaska, considering the context of particular areas and routes to meet community needs.

5.3.2 Understanding Transportation Needs

Alaska exhibits a diverse mix of transportation habits and needs, and the patterns of active transportation use vary widely across the state. Many people in the state use walking and bicycling as their main mode of transportation, particularly in rural Alaska, and others prefer a choice to walk or bicycle as part of their daily lives. Levels of active transportation use vary across the state. Some areas have a high walking and bicycling commuter mode share, whereas others have minimal levels of walking and bicycling.

When considering different transportation needs, factors such as geography, climate, land use patterns, cultural norms, income, affordability, and physical ability can have a dramatic impact. Trip purpose, underlying health status, or demographics can further impact the needs surrounding active transportation trips. Understanding these factors can provide insight as to who may be walking and bicycling, why, and what kind of transportation improvements are most likely to improve their experience.

There are many factors that contribute to an individual's transportation needs, habits, and choices, and the factors addressed in the following sections are primary

considerations that may impact transportation patterns. While each element has its own set of considerations, it is important to understand the impact of combining one element with the others listed here. For instance, a utilitarian trip may be different for someone with moderate experience in an urbanized area, as compared to a highly skilled user in a rural area.

Geographic Context

Geographic context, both in terms of climate and land use patterns, can significantly impact the nature of an active transportation trip. Two broad categories are considered here.



Urban/Suburban: Communities with an urban or suburban context typically have higher population densities and higher density development and are often associated with greater potential demand for walking and bicycling facilities. In these communities, facilities can serve a wide range of trip purposes and experience levels. Typical recommendations could include improved crossing conditions, enhanced wayfinding systems, and increased connections between facilities that provide opportunities for travel separated from motor vehicles.



Rural/Smaller Communities: These communities typically have lower relative population densities, although many areas are supported by a compact center of development surrounded by low-density areas. Existing commute mode-share data demonstrates higher walking rates in rural regions of the state, in part due to rural villages being more compact. This compactness is driven by the need to increase density to limit utility infrastructure costs related



to transportation, water, sewer, electricity, and communication. Also, many rural villages have limited infrastructure, and often do not have widespread access to motor vehicles except for ATVs and snow machines, and the costs of gasoline are significantly higher than in urban centers. This results in walking and bicycling being the preferred transportation choice for short trips.

Trip Purpose

The purpose of a specific trip is also a determinant in the transportation mode selected:



Utilitarian/Necessity Trips: Characterized as trips that are purely for transportation purposes, such as commute or errands. Utilitarian trips can occur at all hours of the day and in all weather conditions. These trips can be made of choice, such as someone who owns a car but opts to travel by non-motorized modes, or out of necessity, because another mode is not available. Research has highlighted, however, that there are correlations between lower levels of vehicle ownership, higher rates of poverty, and lower educational attainment and areas that lack quality active transportation facilities.



Recreational/Sporting: Recreational trips for both walking and bicycling are general trips made for fun, fitness, or social connection. These trips may be to a destination, such as a park or other activity center, or they may be a trip made purely for the pleasure of walking or bicycling.

Experience and Ability

A person's experience level and ability will also determine the transportation mode selected. Users typically fall into two groups:



Lower Experience Level or Limited Ability: Improved facilities can greatly increase opportunities for walking and bicycling, particularly for people who are interested in traveling using active modes but are concerned about the safety, comfort, convenience, or existing routes. Accessible active transportation facilities are necessary to provide comfortable, safer mobility options for people with less experience or limited abilities, and these should be provided on every facility. Curb ramps, wide sidewalks, and clear pathways with no obstructions are necessary to provide safer, more accessible, and connected pathways for all users.



Medium to Higher Experience Level or Able-Bodied Individuals: Users who confidently use non-motorized modes, often regardless of weather conditions or the presence of facilities, are included in this category. These users are less concerned with exposure to motor vehicles or disconnected facilities, but they still benefit from the comfort and safety provided by a high-quality facility.



5.3.3 Environmental Justice (EJ) Populations

In addition to the factors discussed above, socio-economic and demographic factors can influence an individual's transportation patterns and needs. Research has highlighted that certain populations may rely more on walking and bicycling as primary modes of transportation, while also experiencing limited access to quality facilities. The following indicators were identified and considered as part of the ASATP as they are frequently associated with disadvantaged or vulnerable populations, who are more likely to experience decreased transportation access:



Race: This indicator measures the percentage of the population that identifies as non-white. Within Alaska, this provides insight into areas with a higher proportion of Alaska Native populations.



Age: Individuals under the age of 18 and over the age of 65 comprise this indicator. Each of these population groups is considered separately to better identify the different needs of these populations.



Income: This indicator measures individuals of working age living at or below 200 percent of the federal poverty level, which is a threshold set by the U.S. Census Bureau and is updated annually.



Educational Attainment: This indicator represents the percentage of the population over 25 years of age that does not have a high school diploma or equivalent.



Access to a Motor Vehicle: This indicator represents the percentage of the population without access to a motor vehicle. This specifically relates to the availability of passenger cars, trucks, and vans but does not consider the availability of ATVs and snow machines, which are important transportation modes in rural parts of Alaska.

This analysis considers both the distribution and concentration of EJ populations at the census tract level across Alaska, using American Community Survey 2014 five-year estimates. The composite analysis, shown in Figure 11, represents a combination of these factors. Maps depicting each indicator are included in Appendix C.

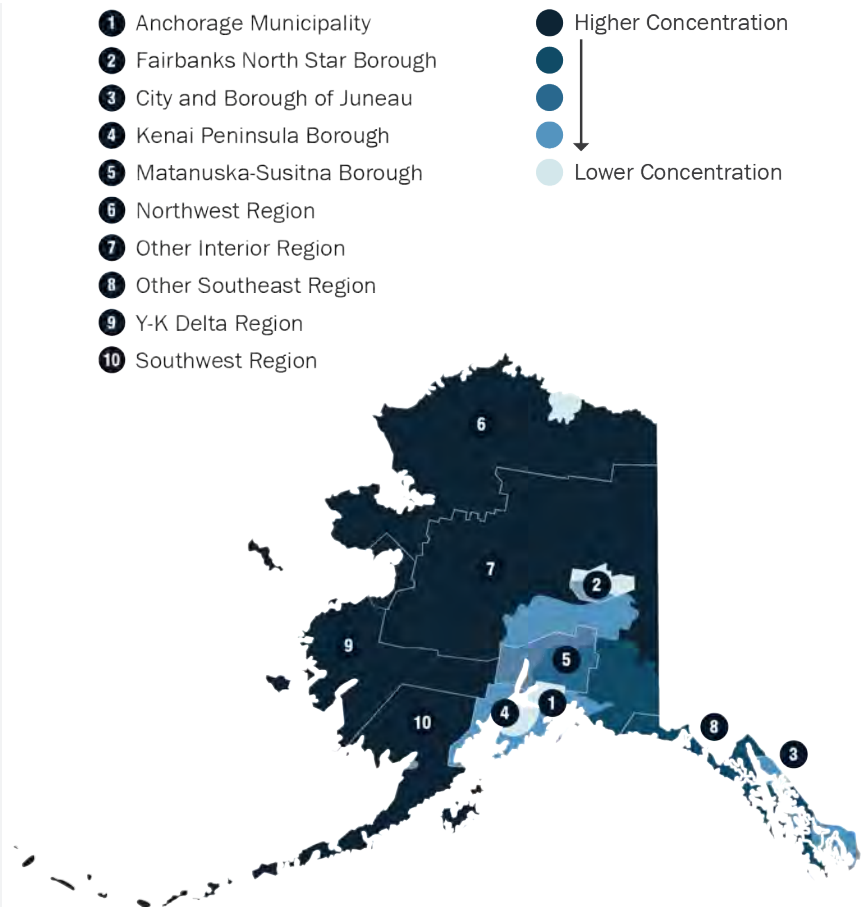


Figure 11: Composite Equity Score by Census Tract



In general, the northern and western parts of the state, including the Southwest Region, Northwest Region, Yukon-Kuskokwim Delta Region and other Interior Regions experience higher concentrations of EJ populations. These regions have lower levels of motor vehicle access, lower educational attainment, higher proportions of youth under 18 years of age, and lower income levels when compared to the rest of Alaska. These populations are more likely to rely on walking and bicycling to meet daily needs, including traveling to work or school, accessing food, or attending medical appointments. The provision of active transportation infrastructure is important in rural Alaskan hub communities and villages for these reasons.

5.4 Environmental Considerations

Alaska is renowned for its diverse terrain of open spaces, mountains, forests, and abundant wildlife. The largest population centers are concentrated around Anchorage and the Matanuska-Susitna Borough in Southcentral Alaska. Other large cities include Fairbanks North Star Borough and Juneau, and the remainder of the population is dispersed across the state in smaller cities, towns, and villages, many of which are not directly accessible by road. Preserving and enhancing Alaska's natural and built environment and unique way of life is important to the state's citizens and for maintaining a high quality of life for future generations. Alaska's environmental resources are diverse and varied, ranging from National and State Parks and other recreational resources to fish and wildlife, cultural and historic resources and properties, air and water quality, soils and vegetation, and many others.

Active transportation is a key part of the transportation system in Alaska and is important to support access to and the preservation and enhancement of the environment. Of the environmental resources present in Alaska, air quality has the highest potential

for improvement through investment in active transportation facilities and programs. Air quality can be negatively impacted by transportation-related sources, including vehicle exhaust emissions, road dust, fuel, and other emissions. Often, these emissions are proportional to the vehicle miles of travel (VMT). Anecdotally, total pollutant emissions can be decreased through shifting from auto to active transportation modes.

Dust is a particular issue in rural Alaska, and a 2010 state survey highlighted more than 50 Alaska communities where residents were “highly affected by dust”. Effects include eye irritation, asthma, coughing, bronchitis, emphysema, and chest tightening.¹² The DOT&PF has tried numerous techniques to address the dust impacts across rural Alaska, including paving roads, spreading recycled motor oil, salt compounds, synthetic fluids, and water to suppress dust, but many of these solutions are costly and environmentally damaging. The most cost-effective solution to date has been slowing the speed of motorized traffic to avoid dust disturbance, but this has been difficult to enforce and increases travel time.¹³

The Clean Air Act (CAA) and its amendments directed the Environmental Protection Agency (EPA) to establish National Ambient Air Quality Standards (NAAQS) for each of six criteria pollutants to protect the public from the health hazards associated with air pollution. In Alaska, a portion of Fairbanks and North Pole is designated as a Carbon Monoxide Maintenance Area and a larger portion has been designated as PM_{2.5} non-attainment area. A large portion of Anchorage is also designated as a Carbon Monoxide Maintenance area. A maintenance area is one that has been previously designated as a non-attainment area and is required to develop a maintenance plan. These areas of the state, which also coincide with the largest centers of population density, are the focus of efforts to reduce air pollution.

¹² Demer, L. (2017). *Dust busting: Bush Alaska clouds with choking dust, and residents want to do something about it.* Anchorage Daily News. Retrieved from <https://www.adn.com/alaska-news/rural-alaska/2017/08/13/dust-busting-bush-alaska-clouds-with-choking-dust-and-residents-want-to-do-something-about-it/>.

¹³ Succarieh, M. (1992). *Control of dust emissions from unpaved roads.* Transportation Research Center, Institute of Northern Engineering, University of Alaska Fairbanks. Retrieved from http://tundra.ine.uaf.edu/wp-content/uploads/2011/02/INE_TRC_QRP_92_05.pdf.



Alaska's LRTP, *Let's Get Moving 2036*, identifies a key measure of livability and environmental sustainability is air quality. As of May 2018, FHWA has repealed the performance management measure relating to greenhouse gases (GHG), which has removed the requirement to establish targets and report progress toward achieving targets for GHG emissions.¹⁴ Notwithstanding this, active transportation facilities and infrastructure can support a modal shift, which will help improve Alaska's air quality and GHG emissions and contribute to reducing reliance on fossil fuels.

5.5 Economic Benefits of Active Transportation

There is increasing recognition of the benefits of walking and bicycling including improved community access and connectivity, reduced dependence on fossil fuels, reduced vehicle emissions, and active, healthier communities. Accounting for these benefits is often less tangible and more qualitative. To make the case for investing in active transportation infrastructure, communities increasingly seek methods to quantify these benefits.

Often the most convincing case is made by quantifying the economic value of benefits associated with active transportation investments. Specifically, benefits include those associated with health, transportation, and environmental costs. With this data, transportation policy makers and planners can integrate cost-benefit analyses in the decision-making process, which can generate more informed discussion regarding the cost-effectiveness of transportation investments. Further, this analysis can allow communities to be more competitive for grant funding and may lead to new partnerships and initiatives.

As part of the ASATP, the potential economic benefits associated with increased walking and bicycling were evaluated. Details regarding the methods and research supporting this assessment can be found in Appendix D. In general, this process involved:

- Establishing current levels of walking and bicycling activity
- Identifying future goals for walking and bicycling activity considering both current activity levels and the goal areas of this plan

- Calculating the anticipated economic benefits associated with increased walking and bicycling activity levels, including assumed reduction in motor vehicle trips.

The results, which are presented below, can be quantified for each mode at a regional level and are summed to provide an overall anticipated value for the state.

5.5.1 Data Sources and Methods

The analysis was completed using the Behavioral Health Regions (see Figure 10) to provide a more refined, geographically appropriate, and usable scale for goal setting and benefits estimation.

Existing activity levels were developed based on journey to work data available from the U.S. Census Bureau's American Community Survey (ACS). This data provides a comprehensive view of the state and establishes a baseline commute mode share measure. Various multipliers derived from the National Household Travel Survey and National Center for Safe Routes to School data were then applied to account for school and college trips, utilitarian trips, social/recreational trips, and other non-commute trips. Table 3 presents the existing walking and bicycling commute mode shares for each region.

Goals for future activity were then established based on existing activity level, previous planning efforts, and unique characteristics of each region, such as geography and demographics. Within each region, localized goals may be higher or lower; however, the region-wide goals create an aggregate measure.

In general, goals were set at twice the existing rate for bicycling. Walking rates were set to be twice the existing rate for more densely populated regions while less populated regions (which have significantly higher existing walk mode shares) were assigned goals at approximately 1.25 times the existing rate. At the statewide level, a bicycle commute mode share goal of two percent and a walk commute mode share goal of 13.4 percent would achieve the same overall benefits as derived by the individual regions.

¹⁴ FHWA. (2018). *GHG Final Rule Signed*. Retrieved from <https://www.fhwa.dot.gov/tpm/rule.cfm>.



| Regional Walking and Bicycling Commute Mode Share Goals | | Walking | | Bicycling | |
|---|------------------------------|----------|-------|-----------|------|
| | | Existing | Goal | Existing | Goal |
| 1 | Anchorage Municipality | 3.0% | 6.0% | 1.2% | 2.4% |
| 2 | Fairbanks North Star Borough | 3.6% | 7.2% | 1.3% | 2.6% |
| 3 | City & Borough of Juneau | 5.8% | 11.6% | 1.3% | 2.6% |
| 4 | Kenai Peninsula Borough | 5.9% | 11.8% | 0.5% | 1.0% |
| 5 | Matanuska-Susitna Borough | 1.9% | 3.8% | 0.2% | 0.4% |
| 6 | Northwest | 39.6% | 49.5% | 0.4% | 0.8% |
| 7 | Other Interior | 20.2% | 25.2% | 0.3% | 0.6% |
| 8 | Other Southeast | 16.4% | 20.5% | 2.2% | 4.4% |
| 9 | Yukon-Kuskokwim Delta | 36.7% | 45.9% | 0.4% | 0.8% |
| 10 | Southwest | 29.6% | 37.0% | 0.5% | 1.0% |

Table 3: Regional Walking and Bicycling Commute Mode Shares and Mode Share Goals

5.5.2 Economic Benefits of Active Transportation

Health benefits are generated by reduced health care costs because of people meeting recommended physical activity levels due to increased walking and bicycling. While not directly quantified here, health benefits also include improved mental health, improved academic performance, strengthened connection to nature, and cultivation of a sense of place.

Transportation benefits are associated with the cost savings resulting from reduced congestion, reduced road maintenance, vehicle crashes avoided, and household vehicle operation cost savings. These metrics are relative to the reduction in VMT and assume people will select the most sensible, convenient, and safe option for daily trips.

One of the most direct environmental benefits of walking and bicycling is these transportation modes do not produce air pollutant emissions. The cost savings reflected here consider the cost required to mitigate air pollution or the cost equivalent of the damage caused by a pollutant to the environment. If all ten regions attained their respective walk and bike mode share goals, health, transportation, and environmental benefits as set out in Table 4 could be captured.

| | Walking | Biking |
|--|------------------------------|-----------------|
| Health Benefits | | |
| Additional Statewide Trips | 93 M | 13.9 M |
| Additional Miles Travelled | +28.7 M | +18.8 M |
| Physical Activity (increase in residents meeting recommended PA levels annually) | +10% | +2% |
| Annual Healthcare Cost Savings | \$3.25 M | \$655,000 |
| Transportation Benefits | | |
| Vehicle Miles Travelled (VMT) Reduction | 25.8 M | 12.2 M |
| Traffic Congestion Cost Reduction | \$1.8 M | \$857,000 |
| Vehicle Collision Cost Reduction | \$12.8 M | \$6.1 M |
| Road Maintenance Costs Reduced | \$3.9 M | \$1.8 M |
| Household Vehicle Operation Cost Savings | \$14.7 M | \$7 M |
| Environmental Benefits | | |
| Carbon Dioxide Emissions Reduced (lbs) | 21 M | 10 M |
| Other Emissions Reduced (lbs) | 835,000 | 400,000 |
| Total Emissions Cost Reduction | \$862,000 | \$410,000 |
| Total Combined Benefits | \$37.35 M | \$16.9 M |
| | M = Million \$54.25 M | |

Table 4: Potential Economic Benefits of Walking and Biking



5.5.3 Aggregate Economic Benefits

The total economic benefits associated with increased walking are estimated to be approximately \$37 million per year, while increased bicycling would derive an estimated \$17 million in economic benefits annually. These totals are considered conservative estimates, because they primarily account for the direct benefits that can be quantified in monetary terms. These

totals also do not fully account for localized aggregate health, transportation, and environmental impacts of complete walking and bicycling networks. This implies that statewide walking and bicycling economic benefits, when fully accounted for, may well exceed the sum of the individual regional and local benefits presented in Tables 5 and 6.

Table 5: Total Regional and Statewide Economic Benefits of Increased Walking









| Region | |  Health Benefits |  Transportation Benefits |  Environmental Benefits |  Total Benefits |
|---|------------------------------|--|--|---|---|
| 1 | Anchorage Municipality | \$963,000 | \$10,122,000 | \$262,000 | \$10,347,000 |
| 2 | Fairbanks North Star Borough | \$378,000 | \$3,805,000 | \$99,000 | \$4,282,000 |
| 3 | City & Borough of Juneau | \$164,000 | \$1,980,000 | \$52,000 | \$2,196,000 |
| 4 | Kenai Peninsula Borough | \$239,000 | \$2,725,000 | \$70,000 | \$3,034,000 |
| 5 | Matanuska-Susitna Borough | \$164,000 | \$1,652,000 | \$43,000 | \$1,859,000 |
| 6 | Northwest | \$337,000 | \$2,431,000 | \$63,000 | \$2,831,000 |
| 7 | Other Interior | \$164,000 | \$1,798,000 | \$47,000 | \$2,009,000 |
| 8 | Other Southeast | \$249,000 | \$2,947,000 | \$76,000 | \$3,272,000 |
| 9 | Yukon-Kuskokwim Delta | \$220,000 | \$1,456,000 | \$37,000 | \$1,713,000 |
| 10 | Southwest | \$370,000 | \$4,324,000 | \$113,000 | \$4,807,000 |
| Annual Additional Statewide Benefits | | \$3,248,000 | \$33,240,000 | \$862,000 | \$37,350,000 |

Table 6: Total Regional and Statewide Economic Benefits of Bicycling

| Region | |  Health Benefits |  Transportation Benefits |  Environmental Benefits |  Total Benefits |
|---|------------------------------|--|--|---|---|
| 1 | Anchorage Municipality | \$345,000 | \$8,944,000 | \$232,000 | \$9,521,000 |
| 2 | Fairbanks North Star Borough | \$122,000 | \$2,965,000 | \$77,000 | \$2,164,000 |
| 3 | City & Borough of Juneau | \$36,000 | \$968,000 | \$25,000 | \$1,029,000 |
| 4 | Kenai Peninsula Borough | \$24,000 | \$535,000 | \$14,000 | \$573,000 |
| 5 | Matanuska-Susitna Borough | \$21,000 | \$280,000 | \$8,000 | \$309,000 |
| 6 | Northwest | \$9,000 | \$75,000 | \$2,000 | \$86,000 |
| 7 | Other Interior | \$8,000 | \$101,000 | \$2,000 | \$111,000 |
| 8 | Other Southeast | \$69,000 | \$1,642,000 | \$42,000 | \$1,753,000 |
| 9 | Yukon-Kuskokwim Delta | \$6,000 | \$52,000 | \$2,000 | \$60,000 |
| 10 | Southwest | \$15,000 | \$232,000 | \$6,000 | \$253,000 |
| Annual Additional Statewide Benefits | | \$655,000 | \$15,794,000 | \$410,000 | \$16,859,000 |



6

Providing for Walking and Bicycling in the Future

This section considers the active transportation network and existing programs and strategies and outlines changes and improvements that can be made over the next 20 years to achieve the ASATP's vision for people in Alaska to enjoy equitable, accessible, safer walking and bicycling opportunities as an integral part of daily life.

An analysis of funding sources to support and enable investment in walking and bicycling facilities and programs was also carried out, considering federal, state, tribal, and other funding sources that can be applied to walking and bicycling projects in Alaska. Notwithstanding the broad range of funding sources available, there are still more projects needed or desired than funds available. An investment decision framework is recommended to consider the effective allocation of scarce funding to projects and programs in a way that will deliver the most benefits and achieve the vision, goal areas, and objectives of the ASATP.

6.1 Providing the Active Transportation Network

This section summarizes standards, policies and guidance that support provision of transportation facilities. Many facilities in Alaska are designed as “non-motorized” facilities or are addressed through “non-motorized plans”, which means pedestrians and bicyclists are often considered as a single user group. The approach recognizes that both travel modes propel themselves without the use of a motor, but care is needed to ensure that appropriate facilities are provided for each user group and the risk of conflicts between walkers and bicyclists is minimized.

6.1.1 National Standards for Non-Motorized Transportation Facilities

Highway Capacity Manual (HCM)

The HCM is the leading national document for the evaluation, planning, design, and operation of transportation facilities, including the multimodal operation of streets, highways, freeways, and off-street pathways. The sixth edition of the HCM has evolved in

response to the shifting focus in surface transportation from designing and constructing the Interstate highway system to managing a complex transportation system serving a variety of users and travel modes. The previous update to the HCM in 2010 significantly elevated the status of active transportation modes by integrating their analysis into several chapters and by adopting a user-perception-based level of service model to understand how safe and comfortable bicyclists felt operating in the roadway environment. This was a shift from the previous approach of capacity for pedestrian and bicycle and pedestrian facilities. The sixth addition of the HCM further elevates multimodal travel by considering:

- **Quantity of travel:** the magnitude of use of a transportation facility or service
- **Quality of travel:** users' perceptions of travel on a transportation facility or service with respect to their expectations
- **Accessibility:** the ease with which travelers can engage in desired activities
- **Capacity:** the ability of a transportation facility of service to meet the quantity of travel demanded of it.

Manual on Uniform Traffic Control Devices for Streets and Highways (MUTCD)

The MUTCD defines the standards used by road managers to install and maintain traffic control devices on all public streets, highways, bikeways, and private roads that are open to travel by the public. It is published by FHWA and is a compilation of national standards for all traffic control devices, including road markings, highway signs, and traffic signals. It is updated periodically to accommodate changing transportation needs and address new safety technologies, traffic control tools and traffic management techniques. The MUTCD provides standards for signage and striping for on-road and off-road bicycle facilities.



6.1.2 Other Standards Applied in Alaska

Alaska Traffic Manual

The Alaska Traffic Manual (ATM) is the standard for traffic control devices on public roads in Alaska. It consists of the MUTCD and the Alaska Traffic Manual Supplement (ATMS). It references the Alaska Sign Design Specifications (ASDS), which is the sign layout for Alaska public roads.

AASHTO Guide for the Development of Bicycle Facilities

AASHTO produced bicycle design guidance through the Guide for the Development of Bicycle Facilities (4th edition, 2012), which includes shared use path design criteria, wayfinding recommendations, and enhanced integration of bicycling with transit. The Guide is applied as a standard in Alaska through Section 1210 of the HPM.

Americans With Disabilities Act Accessibility Guidelines (ADAAG)

The Americans With Disabilities Act Accessibility Guidelines (ADAAG) contains technical requirements for accessibility to buildings and facilities (including surface transportation facilities) for people with disabilities under the Americans with Disabilities Act (ADA) of 1990. The ADAAG 2206/2010 are standards for non-motorized facilities in Alaska, as adopted by the United States Department of Transportation.

6.1.3 Other National Guidance for Active Transportation Facilities

Complete Streets

Complete Streets is a policy and engineering approach based on the idea that streets should be consistently designed with all users in mind, regardless of who they are or how they get around. It seeks to place the safety and convenience of all users of the ROW on equal footing, whether they are walking, biking, using a wheelchair, using transit, or driving an automobile. Several jurisdictions in Alaska have formally adopted Complete Streets policies, including Anchorage, Fairbanks, Juneau and Bethel. The USDOT is supportive of Complete Streets policies at a state, regional, and local level. Smart Growth America and the National Complete Streets coalition provides extensive resources for agencies seeking to implement Complete Streets in their communities.

Vision Zero

Vision Zero is a multi-national road traffic safety project that aims to achieve a highway system with no fatalities or serious injuries. Many cities across the U.S. have adopted Vision Zero initiatives, including Anchorage. The DOT&PF adopted Vision Zero as “Target Zero” in 2007 as part of its SHSP.

Proposed Guidelines for Pedestrian Facilities in the Public Right-of-Way (PROWAG)

PROWAG was proposed by the Architectural and Transportation Barriers Compliance Board to provide accessibility guidelines for the design, construction, and alteration of pedestrian facilities in the public ROW. The guidelines provide an additional resource to the DOT&PF for designing ADA compliant facilities.

USDOT and FHWA Small Town and Rural Multimodal Design Guide

The Small Town and Rural Multimodal Networks Design Guide (STAR Guide) was produced in 2016 as a resource considering the application of national design guidelines in rural settings and small towns for active travel. It provides information on maintaining accessibility and MUTCD compliance and seeks to encourage innovation. The STAR Guide recognizes that active transportation is more common in rural areas than in urban areas, but infrastructure to support active transportation is often limited or absent. It seeks to provide ideas that can be incorporated in rural locations to enhance facilities for active transportation.

FHWA Guidance

FHWA has produced several guidance documents that support incorporation of active transportation facilities into the surface transportation network. Useful guidance includes:

- ***Incorporating On-Road Bicycle Networks Into Resurfacing Projects Guide (2015):*** This guide provides recommendations on how roadway agencies can integrate bicycle facilities into their resurfacing programs. It provides methods for fitting bicycle facilities onto existing roadways, cost considerations and case studies and highlights existing guidance and best practices for providing bikeways during resurfacing projects.
- ***Achieving Multimodal Networks: Applying Design Flexibility and Reducing Conflicts (2016):*** This guide highlights how design flexibility can be



designed to address common roadway design challenges and barriers, with a focus on reducing multimodal conflicts and achieving connected walking and bicycling networks.

- **Separated Bike Lane Planning and Design Guide (2016):** This guide has been developed to provide an overview of the process and approaches for incorporating separated bike lanes into transportation facilities.
- **Bikeway Selection Guide (2019):** This guide is a resource to support the selection of bikeway types. It highlights the linkages between the bikeway selection process and the transportation planning process.

Other AASHTO Guidance

As well as the Guide for the Development of Bicycle Facilities referenced in section 6.1.2, AASHTO has produced other useful guidance including:

- **A Guide for Achieving Flexibility in Highway Design (2004):** This guide is intended to promote the incorporation of sensitive community and environmental issues into the design of highway facilities.
- **Guide for the Planning, Design and Operation of Pedestrian Facilities (2004):** The guide focuses on identifying effective measures for accommodating pedestrians on public ROWs, and to recognize the effect that land use planning and site design have on pedestrian mobility.
- **A Policy on Geometric Design of Highways and Streets (2011, 2018):** The manual is commonly referred to as the “Green Book” and is a comprehensive reference manual for roadway design for new construction projects and designing reconstruction projects.
- **Guidelines for Geometric Design of Low-Volume Roads (2001, 2019):** The guidelines have been developed to provide specific guidance to low-traffic volume facilities.

NACTO Guidance

The National Association of City Transportation Officials (NACTO) has produced several design guidance

documents for active transportation, including the *Urban Street Design Guide*, *Urban Bikeway Design Guide*, *Global Street Design Guide*, *Transit Street Design Guide* and *Bike Share Station Siting Guide*. Elements of these Design Guides are helpful for designing and siting facilities.

ITE Guidance

The Institute of Transportation Engineering (ITE) produced the *Designing Walkable Urban Thoroughfares: A Context Sensitive Approach* (2010), which provides guidance for practitioners to design major urban streets to support walkable and bikeable communities.

6.1.4 Facilities for Bicycles

The following factors should be considered when designing bicycle facilities:

- The travel-related characteristics of the bicyclist
- Design guidelines and standards established for different facility types
- Ensure transition areas where facilities begin and end consider safety for both bicyclists and motorists
- Provide appropriate operating space, address existing spot hazards and ongoing maintenance of the facility.¹⁵

The FHWA's *Bikeway Selection Guide* (2019)¹⁶ notes that understanding the characteristics of different types of bicyclists helps inform facility selection. Characteristics commonly used to classify bicycle facility users include comfort level, bicycling skill and experience, age, and trip purpose. The guide notes however that people may not fit into a single user profile, and a bicyclist's profile may change in a single day. An example given is a bicyclist who is comfortable within a bicycle lane when traveling alone may prefer to bicycle on a quiet residential street or shared use path when traveling with children. In addition to other factors, people who bicycle are influenced by their level of comfort riding in close proximity to motor vehicle traffic. Many people are interested in bicycling for transportation but are uncomfortable with the potential for stressful interactions with motor vehicles, which dissuades them from bicycling.

¹⁵ Meyer, M. (ed.). (2016). (4th ed.). *Transportation planning handbook*. Institute of Transportation Engineers. John Wiley and Sons, Inc.

¹⁶ FHWA (2019). *Bikeway Selection Guide*. https://safety.fhwa.dot.gov/ped_bike/tools_solve/docs/fhwasa18077.pdf Accessed 6/5/19.



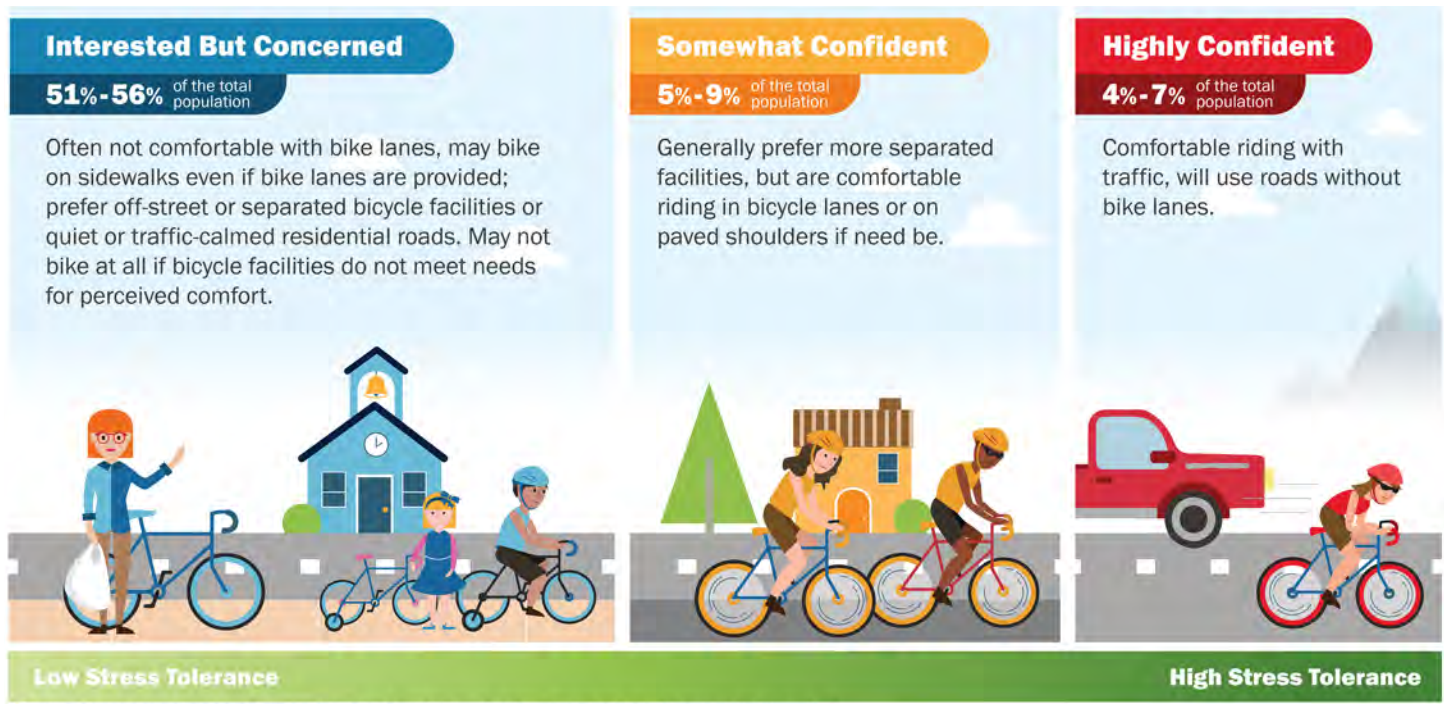


Figure 12: Bicycle Network User Typology

This approach replaces earlier approaches that considered the skill level of bicycle users in designing facilities. The three types of users are highlighted in Figure 12, and described below.¹⁷

- **Highly Confident Bicyclist:** Highly Confident Bicyclists are the smallest group identified by research. While some of these individuals bicycle less frequently, when they do, they prefer direct routes and do not avoid operating in mixed traffic, even on roadways with higher motor vehicle operating speeds and volumes. Many also enjoy bikeways separated from traffic, but they may avoid bikeways which they perceive to be less safe or too crowded with pedestrians or other slower moving bicyclists, or which require deviation from their preferred route.
- **Somewhat Confident Bicyclist:** Somewhat Confident Bicyclists, also known as Enthused and Confident Bicyclists, are the next-smallest group. They are comfortable on most types of bicycle facilities. They have a lower tolerance for traffic stress than the Highly Confident Bicyclist and generally prefer low-volume residential streets and striped or separated bike lanes on major streets,

but they are willing to tolerate higher levels of traffic stress for short distances to complete trips to destinations or to avoid out-of-direction travel.

- **Interested but Concerned Bicyclist:** Interested but Concerned Bicyclists are the largest group identified by the research and have the lowest tolerance for traffic stress. Those who fit into this group tend to avoid bicycling except where they have access to networks of separated bikeways or very low-volume streets with safe roadway crossings. To maximize the potential for bicycling as a viable transportation option, it is important to design bicycle facilities to meet the needs of Interested but Concerned Bicyclist category. This is generally the recommended user profile as the resulting bikeway network will serve bicyclists of all ages and abilities, which includes Highly Confident and Somewhat Confident Bicyclists.

Technology creates disruption to traditional approaches to providing for pedestrians and bicyclists. A recent example is fat-tire bicycles, which emerged in Alaska approximately five to ten years ago and changed the landscape and patterns for recreational use and commuting on bicycles throughout Alaska. This included increasing the potential for an average bicyclist to

¹⁷ Ibid.



commute using their bicycle year-round. Advances in clothing and winter cycling gear make the prospect of winter commuting and recreational cycling more common and open to a variety of users who hone their skills in the summer and winter. The emerging presence of e-bicycles (typically defined as bicycles with power-assisted mechanisms up to 750 watts, maximum self-propelled speed of 20 miles per hour and operable pedals) as well as electronically powered scooters is making active transportation modes available to more users and for more purposes. E-bicycle users may be more comfortable with hillier terrain, riding longer distances, and riding in travel lanes as opposed to on trails and sidewalks. E-bikes and electric scooters also make it possible for people regaining fitness or recovering from injury to enjoy non-motorized transportation modes. E-bicycles may ride on roadways, paths and sidewalks in Alaska unless it is specifically posted to exclude bicycles.

Coupled with changing technologies is changes in the way that people access non-motorized transportation, such as bicycle share programs. There are bicycle share programs already in operation during the summer months in Alaska, which use mobile application-based technology to enable people to rent bicycles for use within urban centers. Several larger bicycle share companies are also diversifying into e-bikes and scooters, and there is the potential for these schemes to expand their fleet to include non-motorized transportation year-round in winter climates.

Many of Alaska's non-motorized and active transportation plans provide guidance on the types of facilities local communities are seeking as they establish and address gaps in the non-motorized network. DOT&PF will continue to support local efforts and partner with communities where appropriate to provide for bicycle facilities.

The provision of bicycle facilities on the road network provided by the State of Alaska has been dependent on national trends, availability of state funding, political direction and public demands. This means that many state-owned roadways constructed prior to 1990 (that are not yet modernized) include limited or no accommodations for pedestrians and bicyclists, and some more recently modernized roadways that were improved during a period of higher oil prices and ample state budgets include a very high level of provision. Since

the mid-1990s, there has been a requirement to provide accommodations for non-motorized transportation in all rehabilitation projects, unless specific approval is obtained to not provide accommodations.

The minimum accommodation on a rural highway that is being modernized (for example) is a paved shoulder with a fog line to enable pedestrians and bicyclists to use the ROW. Most of the road network that is maintained by DOT&PF is outside of urban centers. The facilities cater to users who are covering a longer travel distance and are generally more confident cyclists. A paved shoulder will generally be the most appropriate facility type for confident cyclists, and DOT&PF will continue to provide this standard for most state-owned roadway facilities.

Where DOT&PF maintain roads in urban areas (including the roadway network that is maintained and operated by DOT&PF in cities like Juneau, Anchorage, and Fairbanks), DOT&PF will work with the local communities to implement the recommendations of their non-motorized plans where appropriate, including the establishment of non-motorized networks articulated in these plans. This could include providing non-motorized facilities on state-owned roads to a standard specified in the plans or providing support for the establishment of the non-motorized network by facilitating connections or crossings where state-owned facilities may support connectivity or create barriers to establishing a continuous network for pedestrians and bicyclists. This also provides an opportunity to target designs for users who are Interested but Concerned and support the creation of a bicycle network for all ages and abilities.

6.1.5 Facilities for Pedestrians

A person's decision to walk is influenced by a range of factors, including the perceived quality of the experience, level of security, safety, and convenience.

Traditional pedestrian planning has focused on the physical characteristics of the pedestrian (e.g., walking speed, mobility assistance requirements) and of pedestrian movement. Figure 13 details the range of pedestrian types.¹⁸

More recent approaches to pedestrian planning have looked at a broader context considering not only what is needed to physically walk from one location to another but also how urban design and the interaction between

¹⁸ AAA. (n.d.). *Types of pedestrians*. Retrieved from <https://exchange.aaa.com/safety/pedestrian-safety/types-pedestrians/#.WzqFrarrvL8>.





Runners/Joggers

Runners/joggers are exposed to higher danger as they move faster than a typical pedestrian.



Mature Pedestrians

Mature pedestrians encompass a broad range of walkers, from people who walk for utility reasons to people who walk recreationally. The group exhibits a broad range of characteristics. Mature pedestrians are aware of the road environment and will generally walk in locations where it is safe and comfortable. Many mature pedestrians are able-bodied, and some have mobility limitations due to age and disability or may use mobility aids such as walkers, crutches, and wheelchairs. The use of mobility aids and disability (including physical, cognitive, visual, etc.) will impact the quality of facility needed by these pedestrians.



Children

Children are the least predictable pedestrians, and are smaller and less aware of the characteristics of road environments. Young children require additional training and consideration in route selection and design. Adult supervision is not required for SRTS but it may be noted as “desirable” in the absence of training and preparation.

Figure 13: Pedestrian Typology¹⁹

the road network structure and land use patterns enhance or degrade that experience.

It is preferable and good practice to provide some type of walking facility separate from the traveled roadway. A dedicated pedestrian facility is frequently the best option, but a roadway shoulder will also provide safer pedestrian accommodation than walking in the travel lane. Direct and convenient pedestrian connections should be provided between residences and areas where activity is centered. Residential streets tend to have lower traffic numbers and are more able to accommodate pedestrians in the traveled roadway, but streets classified as collector roads and higher accommodate a larger number of vehicles and have a greater need for a dedicated pedestrian facility. Sidewalks are particularly important for people who use transit, as they provide vital connections to transit

facilities and centers of activity. Collector and arterial streets near schools should provide sidewalks to increase school trip safety. The provision of sidewalks should always occur in a manner that considers accessibility and the nearby facilities that require access. Pedestrian improvements should be compatible with the characteristics of the area. Most transportation planning organizations in urban areas in Alaska have non-motorized transportation plans and land use codes that set out minimum standards for pedestrian facilities. DOT&PF will support these organizations as they implement their plans and focus on the provision of pedestrian facilities on state-administered roads.

Where logical and in accordance with roadway characteristics in urban areas, DOT&PF will provide pedestrian facilities in accordance with local non-motorized transportation plans and land use codes, as

¹⁹ AAA. (n.d.). Types of pedestrians. Retrieved from <https://exchange.aaa.com/safety/pedestrian-safety/types-pedestrians/#.WzqFrarvL8>.



appropriate. DOT&PF will also implement a State ADA Transition Plan and support other organizations in the implementation of their ADA Transition Plans.

In rural areas, a minimum 4-foot-wide paved shoulder is generally included to provide space for pedestrians to walk, and this is a shared space with bicycles. There are many communities in rural Alaska that face unique challenges with the transportation network due to the lack of availability of gravel and other building materials to construct a traditional road and trail network. These communities rely on “boardroads”, or narrow roadways that are built using timber laid over tundra or permafrost soils or perhaps supported on piling. Boardroads have traditionally accommodated pedestrians, but increasingly these are being used by ATVs of varying sizes, and snow machines. Use of board roads by ATVs and snow machines is creating conflicts with non-motorized users and generating maintenance concerns due to the heavier weights of the vehicles and higher levels of wear and tear. Many boardroad facilities are constructed and maintained by local communities. They provide the main transportation route through the community and sometimes connect with the state-maintained roadway. DOT&PF sometimes constructs boardroads and other trails that are informally used by ATVs and snow machines. Consideration is needed to ensure conflicts are minimized and safer accommodations are provided for non-motorized users where ATV/snow machine use is present.

Dust is also a significant concern in many rural communities, as it limits visibility and can limit people’s ability to walk and ride bicycles. Dust can also potentially generate negative health impacts, including increasing the risk of respiratory illness. DOT&PF is

implementing ongoing dust mitigation efforts in rural communities.

6.1.6 Facility Maintenance

Active transportation facility maintenance is an important aspect of creating adequate and comfortable facilities. A crumbling sidewalk or shoulder is not only an eyesore, but it is also a hazard for pedestrians and bicyclists and can limit accessibility for a range of users, including those with limited mobility. The Transportation Planning Handbook recommends that where maintenance of sidewalks and non-motorized facilities is the responsibility of the local jurisdiction or the state, a periodic inspection schedule should be adopted, and a general maintenance budget should be allocated for use on an annual basis.

In Alaska, snow removal/compaction is an important maintenance issue during the winter months. Non-motorized facilities are frequently used for temporary or permanent snow storage, reducing the space available for users and sometimes resulting in the facility not being available for use for several days or even an entire season after a snow event. Snow storage should be considered in facility design to provide adequate space for storage and make it as easy as possible to plow/sweep facilities as part of general roadway maintenance while maintaining access for non-motorized users. Placing non-motorized facilities close to a driving surface and removing obstructions to enable the surface to be maintained from the roadway allows for the efficient maintenance of active transportation facilities in areas of the state where specialized trail and sidewalk blowers and plows are not available. In addition, transit stops require particular care to ensure they are kept clear of snow and are not used for snow storage, to enable them to be used year-round as intermodal connection points.



Photo 11: Pedestrians along Chief Eddie Hoffman Highway in Bethel, Alaska (April, 2017)

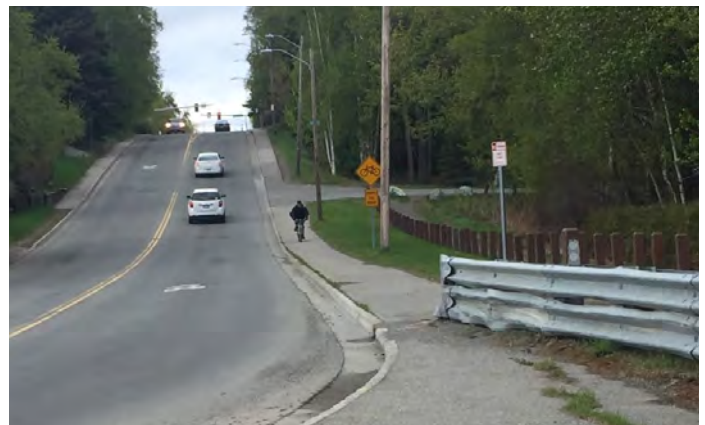


Photo 12: Active transportation shared street, Anchorage (May, 2019)



6.2 Programs and Strategies

Providing safer routes for people walking and bicycling requires a focus on both the design of roadways and adjacent facilities and on education and enforcement actions. The following section outlines new or existing program areas for DOT&PF to either lead or support. These program areas relate directly to the ASATP goal areas, including increasing safety for non-motorized road users, and encouraging walking, biking, and other non-motorized activity.

6.2.1 Programs – DOT&PF Lead

The following are programs that DOT&PF could lead to foster a greater understanding of the role of walking and bicycling in the transportation network and the provision of facilities for non-motorized modes.

Infrastructure Design Improvements – Crash Evaluation Program

Crash analysis can tell us not only where collisions have occurred, but also where they could potentially occur in the future. Just as snowy and slippery roads often lead to an increase in crashes during the winter months, certain roadway characteristics present greater risk to people walking and bicycling. For example, how does speeding affect crash frequency and severity? Is a person walking or bicycling at a greater risk when crossing more lanes of traffic?

A Crash Evaluation Program uses a systematic approach to identify locations and behaviors prone to pedestrian and bicycle crashes and enables an agency to implement multidisciplinary countermeasures ranging from infrastructure and operations, to education and enforcement measures. The DOT&PF already has a crash analysis program as part of its HSIP, which has led to the identification of problem areas and implementation of projects throughout the state.

Data Collection – Active Transportation Inventory Program

Data collection related to active transportation is essential to determine whether changes in mode share, safety, or crash risk are occurring. Evaluating and inventorying data collection needs on state-owned facilities will result in the creation of a robust data system that aids in improving and promoting walking and bicycling.

An Active Transportation Inventory Program can include both data collection of pedestrian counts and bicycle ridership counts over time, as well as an inventory of existing state facilities and assessment of gaps and deficiencies within the system.



Photo 13: Pedestrians at a pedestrian signal in Anchorage (October, 2017)

Non-Motorized Counts

The DOT&PF should adopt standards for non-motorized counts that are compatible with the national Travel Monitoring Analysis System (TMAS). The TMAS system serves as a repository for all automated motorized counts across the U.S. and augments the Highway Performance Management System (HPMS). Below are actions DOT&PF could take to move toward a more robust counts program:

- Develop a Statewide Count Program consistent with that described in the FHWA Traffic Monitoring Guide (2016) and supplemented in the Coding Non-Motorized Station Location Information in the 2016 Traffic Monitoring Guide Format FHWA-HEP-17-011.
- Develop training materials and modules that support local counting efforts.
- Develop and manage a count database, maintain training materials, and conduct annual count training for interested parties following the data collection standard and format of the TMAS system.
- Develop partnerships within the state to build on existing count programs while minimizing duplication of efforts.
- Coordinate with other state active transportation



coordinators to develop standard tools to analyze count data.

- Continue identifying new data collection technologies and opportunities (e.g, mobile applications such as Strava and personal fitness trackers) as their availability and thoroughness expands, to augment conventional pedestrian/ bicycle counts and other data gathering methods.

Active Transportation Facilities Inventory

An active transportation facilities inventory can be used to identify needs and deficiencies within the state-owned roadway system for active transportation infrastructure projects. A typical assessment would inventory all existing facilities, assess the quality of facilities in relation to current design standards, and identify gaps and deficiencies in the system.

A facilities inventory requires the development of an accurate methodology at the outset to ensure the ability to compare gaps and needs across regions. Determining certain information ahead of time, such as which facility types to inventory (*sidewalks, shared-use paths, on-street bicycle lanes, etc.*); nomenclature used to describe certain facilities (*i.e., “separated bicycle lanes” versus “protected bicycle lanes”*); and a standard hierarchy to assess the quality of facilities (e.g., non-existent versus meets requirements) will aid in future analysis over a wide area.

Internal DOT&PF Training – Staff Training

Offering technical training to agency staff will increase understanding of active transportation user needs, best practice design guidance, safety measures, and educational campaigns to promote active transportation safety. Active transportation-focused training could potentially build on training opportunities already offered to DOT&PF staff on roadway safety and design standards. Table 7 lists agencies and organizations that have published training materials directly or indirectly relating to active transportation. DOT&PF can use these resources as a starting point and adapt training curricula to address Alaska’s unique context.

Table 7: Staff Training Resources

| Training/Active Transportation Guides by Organization |
|--|
| FHWA <ul style="list-style-type: none"> • Small Town and Rural Multimodal Networks Guide (2016) • Achieving Multimodal Networks: Applying Design Flexibility and Reducing Conflicts (2016) • Incorporating On-Road Bicycle Networks into Resurfacing Projects (2016) • Separated Bike Lane Planning and Design Guide (2015) • Manual on Uniform Traffic Control Devices (2009) |
| AASHTO <ul style="list-style-type: none"> • A Guide for Achieving Flexibility in Highway Design (2004) • Guide for the Development of Bicycle Facilities (2012) • Guide for the Planning, Design and Operation of Pedestrian Facilities (2004, 2017) • A Policy for Geometric Design of Highways and Streets “Green Book” (2018) • A Guide for Geometric Design of Low-Volume Roads (2019) |
| National Association of City Transportation Officials <ul style="list-style-type: none"> • Urban Street Design Guide (2013) • Urban Bikeway Design Guide (2014) |
| Institute of Transportation Engineers <ul style="list-style-type: none"> • Designing Walkable Urban Thoroughfares: A Context Sensitive Approach (2010) |



6.2.2 Programs – DOT&PF Support

This section outlines programs to support and encourage walking and bicycling that could be led by other agencies with support from DOT&PF.

Active Transportation Educational Campaigns and Training

Active transportation marketing campaigns and training offer an opportunity to educate all roadway users on regulations and safety behaviors, and also to encourage greater participation in active transportation. DOT&PF is well positioned to support statewide and local agency efforts to educate residents and visitors through staff support, funding, and guidance. The Alaska SHSP further recommends strategies and actions to educate

roadway users, pedestrians, and bicyclists on the rules of the road and safety practices.

To support active transportation campaigns, DOT&PF could assist other agencies or organizations in the following ways:

- Assist with the development of materials and messages for public information officers
- Convene agencies to coordinate on campaigns
- Partner with lead organizations through National Highway Traffic Safety Administration (NHTSA) grants
- Develop measurable outcomes for each campaign

Suggested training and campaign options are summarized in Table 8.

Table 8: Suggested Training and Campaign Options

| Campaigns | Training |
|--|--|
|  Impaired Driving/Riding Campaigns Campaigns targeting impaired operation or distracted driving of motor vehicles, ATVs, or snow machines in conjunction with high-visibility enforcement efforts to reduce collisions involving people walking and bicycling |  Driver's Education Training Addressing active transportation safety in driver education training, materials, and licensing programs in the classroom and behind the wheel, including strategies for motorists, pedestrians and bicyclists on safely sharing the road and expecting pedestrians and bicyclists in the roadway corridor. |
|  Share the Road/Trail Marketing Walking and bicycling safety campaigns that specifically target sharing the road or trail with different types of users |  Three-foot Buffer for Bicyclists Support Supporting education of motorists maintaining a three-foot buffer when passing bicyclists |
|  Be Seen Campaigns Campaigns highlighting and promoting pedestrian and bicyclist reflective wear |  Safety Policy Support Encouraging community-led policies and approaches that promote active transportation initiatives |
|  Vulnerable User Awareness Increasing awareness and understanding of safety issues related to vulnerable road users |  School Education Programs School-based education programs to promote active transportation safety through partnerships, materials, curricula, and technical assistance |
|  Safety Media/Campaigns Encouraging and developing active transportation safety campaigns such as radio, posters, billboards, and commercials | |
|  Senior Safety Campaigns Increasing awareness of the safety, accessibility, and mobility needs of aging pedestrians and bicyclists | |
|  Participation Campaigns Encouraging and increasing the level of participation in walking and bicycling for transportation | |



6.2.3 Summary

Supporting education and enforcement efforts through the creation of programs, campaigns and evaluation tools in Alaska will aid in creating safer and more welcoming places for people of all ages and abilities to walk, bicycle, or use other non-motorized means of transportation. Education and enforcement efforts such as Systemic Crash System Evaluation Program, increased data collection, an inventory of existing active transportation facilities along state-owned facilities, and increased staff training support Alaska's SHSP strategies and actions and are effective and cost-efficient ways to increase active transportation opportunities and to prioritize needs.

6.3 Transportation Funding

6.3.1 Title 23 United States Code

Title 23 United States Code (U.S.C) outlines the laws and regulations for U.S. highways and rural roadways. Title 23, Chapter 2, Section 201, requires the availability for funding through various programs administered by the DOT&PF, including the Federal Lands Access Program (FLAP), Federal Lands Transportation Program (FLTP), and Tribal Transportation Program (TTP). Funds authorized for these programs are to be available for contract upon apportionment, or on October 1 of the fiscal year for which the funds were authorized if no apportionment is required. These programs are summarized below.

Federal Lands Transportation Program

The Federal Lands Transportation Program (FLTP), provides funding for transportation facilities owned and maintained by the National Park Service, U.S. Fish and Wildlife Service, U.S. Forest Service, and many other independent federal agencies with natural resource and land management responsibilities. FLTP funding has specific eligibilities for active transportation including transportation planning, engineering, reconstruction, rehabilitation, restoration and maintenance.

Federal Lands Access Program

The Federal Lands Access Program (FLAP) is designed to improve facilities that are located within federal lands or provide access to federal lands. Eligibility is similar to the FLTP. Apportioned funds are allocated by formula and managed by federal agencies with natural resource and land management responsibilities.

Tribal Transportation Program (Title 25)

The Tribal Transportation Program (TTP) is primarily designed to provide access to and within Indian

reservations/lands, and Alaska Native Village communities. The policy states that any public roadway, trail, or transit system that is located on or provides access to tribal land is eligible for funding for active transportation activities.

Each year TTP funds are provided to tribal governments to address transportation needs in tribal communities. The TTP funding is allocated to each tribal government based on a formula that is derived by the National American Housing Self Determination Act (NAHSDA) population. The 229 tribes in Alaska will receive approximately \$45 million per year for years 2016 to 2020 for transportation planning, maintenance, and construction, which equates to a total of approximately \$240 million. The TTP funds are the most flexible funding source in the transportation sector and are the only federal funding source that can be matched with Title 23 federal funding. They can be spent on projects identified and prioritized by a tribe and can be used when developing a project using funding from multiple funding sources. Figure 14 provides the estimated funding amounts received by Alaska's tribes.

Figure 14: Alaska Tribe's Estimated Funding Amounts



Six Tribal Transportation Organizations (TTO) have been created to act as a consortium representing several tribes within a specific region in Alaska. The TTO administers plans and develops, designs, and constructs transportation projects on a tribe's behalf. TTOs such as Kawerak, Inc. typically partner with DOT&PF and FHWA to develop common transportation priorities in their region. In 2014, Kawerak received a total of \$7 million for transportation projects for its communities. The amount received is anticipated to be similar each year through 2020. The other five TTOs in Alaska receive similar levels of TTP funds as Kawerak.



6.3.2 Fixing America Surface Transportation Act

Levels of funding to provide accommodations for pedestrians and bicyclists have increased since the passing of the Fixing Americas Surface Transportation (FAST) Act and the level of flexibility for funding active transportation projects has also improved. The FAST Act also directs the USDOT to identify best practices to provide safe and adequate accommodation of all users of the surface transportation network in all phases of project planning, development, and operation. Although

the improved funding is positive, there are challenges created for rural Alaska as funding is primarily directed toward urban areas with higher levels of population.

The FAST Act funds surface transportation programs at over \$305 billion for fiscal years 2016 through 2020. It authorizes \$226.3 billion for road, bridge, walking, and bicycling improvements. Numerous FAST Act programs indicate potential funding eligibility for active transportation activities and projects, as listed in Table 9 and described further below.

Table 9: Active Transportation Funding Sources²⁰

| Activity | Pedestrian and Bicycle Funding Sources | | | | | | | | | | |
|-----------------------------|--|------|------|------|----|------|-------|-------|-------|-----|------|
| | NHPP | STBG | HSIP | CMAQ | TA | FLTP | NHTSA | BUILD | TIFIA | FTA | PLAN |
| Active Transportation Plans | | ✓ | | | ✓ | ✓ | | | | ✓ | ✓ |
| Data Collection | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | | | | ✓ | ✓ |
| Bicycle Lanes on Roads | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | | ✓ | ✓ | ✓ | |
| Shared Use Paths | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | | ✓ | ✓ | ✓ | |
| Signs/Signals | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | | ✓ | ✓ | ✓ | |
| Separated Bike Lanes | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | | ✓ | ✓ | ✓ | |
| Safety Education | | ✓ | | | ✓ | | ✓ | | | | ✓ |
| Lighting | ✓ | ✓ | ✓ | | ✓ | ✓ | | ✓ | ✓ | ✓ | |
| Maps | | ✓ | | ✓ | ✓ | | | | | ✓ | ✓ |

National Highway Performance Program

The National Highway Performance Program (NHPP) focuses on the overall condition and performance of the NHS, construction of new facilities, and supporting progress toward the achievement of performance targets established in a state's asset management plan for the NHS. Projects using NHPP funds must be identified in the STIP or Transportation Improvement Program and be consistent with the appropriate LRTP or MTP, pedestrian and bicycle transportation associated with an NHS facility are specifically listed as eligible activities in this program. Additional eligibilities include data collection as part of asset management, signing and signalization, and lighting.

Surface Transportation Block Grant

The Surface Transportation Block Grant (STBG), previously the long standing Surface Transportation Program, has the most flexible eligibilities among all Federal-aid highway programs. The STBG promotes flexibility through numerous eligible activities and transferability to other federal-aid apportioned programs. Generally, STBG projects are eligible for most active transportation projects and activities.

²⁰ Pedestrian and Bicycle Funding Opportunities. USDOT Transit, Highway, and Safety Funds; Revised August 12, 2016.



Highway Safety Improvement Program

Strategic planning places emphasis on high risk transportation facilities in both urban and rural areas, where pedestrians and bicyclists are at greatest risk. The HSIP is intended to assist in the reduction of traffic fatalities and serious injuries on all public roads. State and MPO targets for the number of non-motorized fatalities and non-motorized serious injuries in addition to several others need to be established to be eligible for HSIP funding, and the DOT&PF has established targets as part of its SHSP and HSIP. Additionally, a significant progress determination will be made by FHWA annually to ensure progress is being made towards set goals.

Congestion Mitigation and Air Quality Improvement Program

The Congestion Mitigation and Air Quality Improvement Program (CMAQ) program provides funding for transportation projects and programs to help meet the requirements of the CAA. Funding is available to reduce congestion and improve air quality for areas that do not meet the NAAQS for ozone, carbon monoxide, or particulate matter and for former non-attainment areas that are now in compliance. There are some eligible active transportation activities as part of the CMAQ program. A portion of Fairbanks and North Pole is designated as a Carbon Monoxide Maintenance Area and a larger portion has been designated as a PM2.5 non-attainment area. A large portion of Anchorage is also designated as a Carbon Monoxide Maintenance Area.

Transportation Alternatives Set-Aside and Associated Programs

The Transportation Alternatives (TA) is a set-aside of the STBG program. Funds include all projects and activities that were eligible under the previous program including bicycle facilities, recreational trails, safe routes, and several other active transportation eligibilities. For most of Alaska's TA projects, the federal sliding scale share is 90.97 percent match due to the large amount of public lands in the state.

The Recreational Trails Program (RTP) is a set aside of the TA program administered under the STBG program. The RTP provides funding to develop, repair, rehabilitate, or improve recreational trails and facilities for pedestrian, bicycle, equestrian, and motorized recreational vehicle use. State DOTs are required to use 40 percent of their apportioned RTP funds for a diverse recreational trail use, 30 percent for motorized recreation, and 30 percent for non-motorized

recreation. Under the RTP, FHWA will provide up to an 80/20 match, however, often the actual match is 50/50 percent or more. Between 1993 to 2015, Alaska delivered over 420 successful RTP projects.

The Safe Routes to School (SRTS) program provides funding for various projects and education programs designed to build safer street crossings and encourage children to walk and bicycle safely to school. In Alaska, the SRTS program is delivered using TAP funding.



Photo 14: Bicycle racks at an office building, Anchorage (May, 2019)

Better Utilizing Investments to Leverage Development Grant Program

The Better Utilizing Investments to Leverage Development (BUILD) Transportation Discretionary Grant program provides an opportunity for the USDOT to invest in road, trail, transit, and port projects that meet national objectives. Previously known as Transportation Investment Generating Economic Recovery, or TIGER Discretionary Grants, Congress has dedicated nearly \$506 billion for nine rounds of national infrastructure investments to fund projects that have a significant local or regional impact. Since 2011, four projects in Alaska have been awarded TIGER grants. Current program guidelines state that TIGER grants may be \$5 to \$25 million, except for projects located in rural areas (\$1 million).

Transportation Infrastructure Finance and Innovation Act

All projects eligible for federal assistance through the above programs are eligible for the Transportation Infrastructure Finance and Innovation Act (TIFIA)



credit program except for a \$50 million capital cost. Qualified projects are evaluated against several criteria including but not limited to: impact on the environment, significance to the national transportation system, and promotion of innovative technologies.

Federal Transit Administration Capital Funds

Multiple Federal Transit Administration (FTA) grant programs are available for cities and rural areas to invest in active transportation infrastructure. FTA grants may be used to fund active transportation facility design, construction, and maintenance projects, particularly those that provide access to a public transportation facility. Planning (PLAN)

Under current federal policy guidelines, statewide and metropolitan transportation investment programs must provide for the development and operation of accessible active transportation facilities. Additionally, state DOTs are required to develop a long-range active transportation plan to be incorporated into the statewide long-range transportation plan. Statewide Planning and Research or Metropolitan Planning can be used for these activities.

6.3.3 State Funding Sources

The Alaska Legislature

Each year the Alaska Legislature develops both capital and operating budgets for the state. In years when the state's fiscal situation allows, transportation projects for areas across the state are included as line items in the capital budget. Additionally, the legislature periodically drafts bond bills that are then voted on by state residents during general elections. Unlike capital budget items, items identified in an approved bond bill are funded through the sale of general obligation bonds, which are repaid later using specified state revenues.

State of Alaska Department of Commerce, Community, and Economic Development

The State of Alaska Department of Commerce, Community, and Economic Development (DCCED) administers several programs of interest for developing and maintaining transportation infrastructure vital to a community's success. Most notably, it administers the Community Development Block Grant (CDBG) program, funded by the U.S. Department of Housing and Urban Development (HUD). Once each year, municipal governments can apply for CDBG funding for

an array of project types, which include transportation improvements such as active transportation facilities. In addition to capital projects, HUD also allows CDBG funding to be used for planning efforts. Funding is administered by the State of Alaska.

The Western Alaska Community Development Quota Program

The Western Alaska Community Development Quota (CDQ) Program allocates a percentage of all Bering Sea and Aleutian Islands quotas for ground fish, prohibited species, halibut, and crab to eligible communities. The purpose of the CDQ Program is to (i) provide eligible western Alaska communities with the opportunity to participate and invest in fisheries in the Bering Sea and Aleutian Islands Management Area; (ii) support economic development in western Alaska; (iii) alleviate poverty and provide economic and social benefits for residents of western Alaska; and (iv) achieve sustainable and diversified local economies in western Alaska. There are six CDQ groups in Alaska. In 2010, the six CDQ groups total revenue peaked at approximately \$414.5 million, of which approximately 84 percent, or \$348 million, was derived from revenue sources other than royalties. In 2013, the aggregated revenue from all CDQ groups was \$248.7 million, of which approximately 23 percent was derived directly from CDQ royalties. In 2011, the six CDQ groups held approximately \$938 million in assets and they invested more than \$176 million in CDQ communities and in fisheries activities (Western Alaska Community Development Association 2011, 2012).

6.3.4 Other Funding Sources

Local and private sources typically provide alternative ways to fund city and borough level improvements. Frequently these improvements provide match in either state or federally funded projects. Where a lesser investment is required, solely funded local and private projects can provide additional incentives and promote an uptake in non-motorized transportation use.

Numerous clubs and organizations assist in the promotion of active transportation both for leisure and everyday commuting. Riding and walking events have been able to generate sizeable funding sources used to promote safety and provide capital project and maintenance funding.



7 Integration with Other Policies, Plans and Programs

7.1 Alaska Statewide Long-Range Transportation Policy Plan

The Statewide LRTP (Let's Keep Moving 2036) establishes transportation policies, goals, and implementing actions for DOT&PF through 2036. The LRTP's vision is *"To provide a network that establishes a robust and growing economy and meets the mobility needs of the state's residents."* The LRTP sets out eight policy goals, and the ASATP will support the achievement of many of the LRTP's goals, policies and actions. Please refer to Appendix E for the detailed analysis of how the specific ASATP goal areas, objectives and recommended actions will support the achievement of the LRTP.

The ASATP also supports DOT&PF to address a safety performance measure in the LRTP and the SHSP:

Number of Non-Motorized Fatalities and Serious Injuries (five-year rolling average, combined total, and must involve a motor vehicle).



Section 3.4 details the performance measures for the ASATP and includes the above performance measure. This measure is set out in MAP-21/FAST Act and relates to national goals for Transportation Performance Management.

7.2 Opportunities for Integration

The ASATP's vision is that people in Alaska will enjoy equitable, accessible, safer walking, and bicycling opportunities as an integral part of daily life. This vision is consistent with the draft LRTP update's vision that seeks to provide a network that enables a robust and growing economy and meets the mobility needs of the state's residents and DOT&PF's mission statement, which is to *"Keep Alaska Moving through service and infrastructure."*

To effectively integrate the ASATP into the LRTP and other transportation plans, the statewide active transportation goal areas and objectives should be used to help incorporate active transportation needs into goal areas, objectives, and strategies.

The actions and recommendations in the ASATP will enable DOT&PF to improve and support opportunities for walking and bicycling throughout the state. Through policy, design standards, and program improvements, DOT&PF can positively impact active transportation across Alaska. However, coordination with other state departments, local governments, and advocacy groups can further the reach of the actions and recommendations in this plan. The following sets out specific recommendations for organizations at the statewide, regional, and local level to implement the ASATP.

7.2.1 Statewide Opportunities

- Encourage to have goal areas and objectives consistent with the ASATP in other state plans.
- Ensure consistent vision and goal areas for walking and bicycling across state-level comprehensive planning efforts.
- Coordinate with other agencies and planning efforts to expand data collection practices and identify opportunities for collaborative efforts.
- Partner with or support other agencies to implement programs for active transportation and healthy, active lifestyles.



7.2.2 Regional/Sub-Regional Opportunities

- Coordinate with MPOs and regional/sub-regional organizations to implement the vision, goal areas, and objectives of the state plan at the regional level.
- Collaborate with MPOs to identify opportunities for further integration at the regional and local levels. Examples include working with MPOs to identify how performance measures and strategies can be incorporated into funding criteria.

7.2.3 Local Opportunities

- Encourage local governments to develop pedestrian and bicycle plans, non-motorized plans and active transportation plans with goal areas and objectives that are consistent with the ASATP.
- Encourage local governments to track performance measures, as applicable, at the local level.
- Partner with and encourage local governments to extend data gathering related to pedestrian and bicycling activities and facilities in a consistent, shareable format to support statewide data on active transportation.
- Support local governments and other transportation organizations to develop Safety Plans to address areas with high incidences of pedestrian and bicycle collisions.
- Support and encourage local comprehensive planning efforts to reflect the goal areas and objectives in the ASATP.



Photo 15: Children and parents biking to the play equipment at Westchester Lagoon, Anchorage (May, 2019)



Photo 16: Pedestrians in Utqiagvik, Alaska (April, 2017)



8 Recommended Next Steps

The ASATP will support DOT&PF, and other transportation planning and partner organizations, to work on an effective and consistent approach to improving active transportation opportunities and accommodations in Alaska. Recommendations have been identified for future statewide active transportation planning initiatives to ensure the momentum is maintained by DOT&PF. These recommendations are summarized below.

8.1 Recommendations – Facilities

- **R-F1:** Focus on the provision of pedestrian and bicycle facilities on state-administered roads.
- **R-F2:** Work with the local communities to implement the recommendations of their non-motorized plans where the department maintains roads and where appropriate, including the establishment of non-motorized networks articulated in these plans.
- **R-F3:** Where logical and in accordance with roadway characteristics in urban areas, provide pedestrian and bicycle facilities in accordance with local non-motorized transportation plans and land use codes, as appropriate.
- **R-F4:** In rural areas, include a minimum 4-foot wide paved shoulder to provide space for pedestrians to walk, which is shared space with bicycles.
- **R-F5:** Provide reliable surfaces that are appropriate to accommodate pedestrians and bicyclists along state-owned and operated facilities as roadways are upgraded and modernized, except on facilities where pedestrians and bicycles are prohibited. Section 6.1.3 of the plan sets out useful guidance documents for provision of pedestrian and bicycle facilities.
- **R-F6:** Provide active transportation facilities that are contextually aligned with the speed and volume of the motorized facility and separate active transportation users to the extent practical. This may include wider gravel top roads with dust control in some rural locations, a shared use path along a major highway in an urban location and everything in between.

- **R-F7:** Consider design guidelines and standards established for different facility types.
- **R-F8:** Ensure facility design factors are addressed in the design and construction of active transportation facilities, as a key mechanism to achieving the vision, goal areas, and objectives set out in the ASATP.
- **R-F9:** Ensure transition areas where facilities begin and end to improve safety for both non-motorized users and motorists.
- **R-F10:** Implement the requirement for a paved shoulder in roadway rehabilitation construction projects unless specific approval is granted to not provide a facility.
- **R-F11:** Draw from the FHWA Guidance *"Incorporating On-Road Bicycle Networks into Resurfacing Projects"* to explore opportunities to provide active transportation facilities in preservation projects and consider how to increase provision of facilities while recognizing the constrained costs associated with lower-level preservation projects.

8.2 Recommendations – Users

- **R-U1:** Understand the different types of facility user and define what types of user each active transportation facility is seeking to accommodate.
- **R-U2:** When accommodating bicyclists in urban areas, provide facilities for all user types from interested and concerned users to highly confident users. For non-urban areas, providing facilities for more confident users (who are likely to be traveling longer distances, or in areas with lower traffic volumes and lower potential for conflict) is adequate and is expected to serve all groups.
- **R-U3:** Accommodate all users on either a dedicated facility or more informally in rural areas, depending on level of use of the roadway.
- **R-U4:** When accommodating pedestrians, provide facilities that provide for a broad range of users and be aware of predominant land uses in the



surrounding environment, particularly where these will result in a higher concentration of more vulnerable users.

- **R-U5:** Ensure active transportation facilities are scaled appropriately to ensure that users feel comfortable and safe when using facilities.

8.3 Recommendations – Maintenance

- **R-M1:** Continue with a periodic inspection schedule for non-motorized facilities and consider how maintenance budgets can be allocated to ensure facilities are maintained in a standard of good repair.
- **R-M2:** Consider space for snow storage in the design of roadway facilities while ensuring year-round provision of active transportation facilities where possible. This includes designing facilities to ensure it is easy to plow/compact/groom/sweep areas used by pedestrians and bicyclists as part of roadway maintenance.
- **R-M3:** Consider transit stops where they are provided along a roadway facility to ensure they can be kept clear of snow and are not used for snow storage, so they can be used as year-round intermodal connection points.
- **R-M4:** Consider establishing maintenance priority of active transportation routes.

8.4 Recommendations – Partners

- **R-P1:** Where appropriate, support other transportation planning organizations in urban areas as they implement their non-motorized plans.
- **R-P2:** Support local jurisdictions in the creation and updating of local level non-motorized and active transportation plans.
- **R-P3:** Work with, and where appropriate, partner with local communities to address network gaps and barriers to creating a connected active transportation network in locations where DOT&PF owns and maintains specific roads that interact with the local road network.
- **R-P4:** Support local jurisdictions to evaluate existing policies, standards and practices that focus on and influence personal safety and security on active transportation facilities. Examples include the development of CPTED policies and the Anchored Home Strategic Plan to Solve Homelessness in Anchorage.

8.5 Recommendations – Programs and Data

- **R-D1:** Develop a Statewide Active Transportation court program consistent with the FHWA Traffic Monitoring Guide (2016) and supplemented in the coding non-motorized station location information in the 2016 Traffic Monitoring Guide format FHWA-HEP-17-011.
- **R-D2:** Undertake an inventory and generate a database of existing active transportation facilities on roads administered by DOT&PF, with a focus on:
 1. An inventory and map of existing active transportation facilities on roads managed by DOT&PF
 2. An inventory of network gaps and connections across the whole transportation network.
- **R-D3:** Support local communities in their implementation of non-motorized transportation plans and land use codes for the design, construction, and maintenance of active transportation facilities.
- **R-D4:** Continue technical training to support the understanding of active transportation user needs, best practice design guidance, safety measures and educational campaigns to promote active transportation safety.



8.6 Recommendations – Highway Preconstruction Manual

Revisions are recommended to the HPM as follows:

- **Section 1210 – Bicycle Facilities:** DOT&PF should use the most recent AASHTO Guide for the Development of Bicycle Facilities (currently 4th Edition, published in 2012) when revising Chapter 12 of the HPM. This will ensure consistency between the Guidance referenced in Chapters 11 and 12.
- **Section 1220 – Pedestrian Facilities: When preparing the content of Section 1220:** Adopt guidance such as the AASHTO Guide for the Planning, Design and Operation of Pedestrian Facilities (currently 1st Edition, published 2004), and the MUTCD. Pedestrian Facilities will provide designers with clear direction on designs for better accommodating pedestrians on the Alaska highway system.

8.7 Recommendations – Policies and Procedures

Table 10 summarizes a review of policies and procedures and lists suggestions for updated or new policies and procedures, with the overall goal of improving walking and bicycling conditions throughout Alaska. Recommendations are organized by the goals of this Plan and consider both existing policies and current best practices.

The recommendations reflect a variety of actions ranging from implementation of new policies and laws to minor modifications in existing code language. These recommendations support network and safety related goals, while also aligning Alaska with national and international best practices. Internal policies for maintenance and funding also present opportunities to improve system preservation and develop a safer, complete network.

Items identified as higher priority are based on the recommendations that can support the safety goal area of the ASATP. These actions include recommendations for developing and adopting safe passing distance legislation and vulnerable road user laws and considering a statewide Complete Streets Policy. While DOT&PF may have a leadership role for implementing some of the recommendations, it would likely have a supporting role to partner agencies, organizations, and interest groups advancing other recommended initiatives. For instance, DOT&PF will take ownership of its internal policy and procedure updates, while other interested parties will lead advancing broader legislative and regulatory changes, including updates to the Alaska Administrative Code.

Table 10: Recommendations for Updated or New Policies and Procedures

| Master Plan Goal(s) | Priority | Existing Policy/ Procedure | Recommendation | DOT&PF's Potential Role |
|---------------------|----------|----------------------------|--|-------------------------|
| PP-1: Safety | HIGH | None | <p>Safe passing distance: Develop and adopt language requiring a safe passing distance. Model language can be found through sources such as the League of American Bicyclists. The model language suggests a minimum of three feet. Consider greater distances and including language that specifies the motorist's responsibility.</p> <p>Rationale: Safe passing laws provide clarity to motorists and improve comfort and safety for bicyclists by specifying the minimum distance by which a driver may pass someone on a bicycle.</p> | Support |



| Master Plan Goal(s) | Priority | Existing Policy/ Procedure | Recommendation | DOT&PF's Potential Role |
|---|----------|---|---|----------------------------|
| PP-2: Safety | HIGH | None | <p>Vulnerable road user law: Develop and adopt a vulnerable road user law that increases penalties for motorists who harass, injure, or kill a pedestrian or bicyclist.</p> <p>Rationale: Vulnerable road user laws provide important legal protections to pedestrians, bicyclists, and other people traveling outside of motor vehicles. The law is intended to increase awareness amongst motorists about the importance of driving attentively when sharing the road with non-drivers, by providing stronger punishments for people who seriously injure or kill a pedestrian, bicyclist, or other vulnerable users while driving.</p> | Support |
| PP-3: Safety | HIGH | SB 123 (Use of Electronic Devices While Driving) | <p>Policy/Regulatory Amendment: Update language to include use of a cell phone or similar device for voice-based communications.</p> <p>Rationale: Distracted driving is a safety hazard for all roadway users. People walking and bicycling are particularly vulnerable in crashes involving distracted drivers. While existing legislation addresses non-voice communications, the state should consider including all device use to promote greater safety on the roadway.</p> | Support |
| PP-4: Safety, Health | HIGH | 1995 Commissioner's Policy Directive | <p>Complete Streets Policy and Implementation Strategy: Consider adopting a Complete Streets policy and implementation strategy to consider the needs of all users in planning, design, and operation of state-owned transportation facilities. This policy could build from the 1995 Commissioner's Policy on Bicycle and Pedestrian Accommodations and align with the Fixing America's Surface Transportation (FAST) Act.</p> <p>Rationale: A Complete Streets policy could provide clear direction for agencies to plan, design, construct, and maintain streets for people of all ages and abilities, for all modes of transportation. It may provide the framework for agency staff to implement the intent of the 1995 Commissioner's policy on bicycle and pedestrian accommodations in a comprehensive, systematic, and measurable way.</p> | Lead |
| PP-5: Maintenance/ System Preservation | HIGH | DOT&PF: 07.05.020 (Highway Pavement Maintenance and Rehabilitation) | <p>Policy/Regulatory Amendment: Clarify the scope of this policy to include state-owned non-motorized facilities that are not within a roadway (e.g., adjacent shared use paths). Further clarify the policy to enable these adjacent facilities to be eligible as separate projects in the event pavement condition improvements on the adjacent roadway are needed under a separate timeline.</p> | Lead |



| Master Plan Goal(s) | Priority | Existing Policy/ Procedure | Recommendation | DOT&PF's Potential Role |
|--|---------------|--|---|----------------------------|
| PP-6: Maintenance/ System Preservation, Health, Safety, Connectivity | MEDIUM | None | <p>Track Federal funding: Although Alaska spends a relatively large amount per capita on active transportation facilities, the state ranks lower on the percentage of federal funds dedicated to walking and bicycling. This is because non-motorized improvements are frequently bundled with other projects and are therefore not easy to track as the federal improvement code for pedestrian and bicycle projects only recognizes projects that are exclusively for the benefit of pedestrians and bicyclists and makes no provision for pedestrian and bicycle improvements that are a component of a larger project. Develop a methodology to better track investment levels on projects that support walking and bicycling to expand and strengthen current and future investments, and align with system/facility maintenance, safety, connectivity, and health goals.</p> <p>Rationale: Increased investments in active transportation infrastructure can support the connectivity goal through providing more active transportation facilities; the maintenance goal by supporting preservation of existing investment; the economic goal by improving connections with destinations; and the health goal by creating a system that encourages natural movement for daily activities.</p> | Lead |
| PP-7: Maintenance/ System Preservation | MEDIUM | None | <p>Facility Maintenance Manual: Update sections of the facility maintenance manual to improve specifications for non-motorized facilities. Specific procedures could include snow clearing priority, work zone standards, and agency responsibility assignments for non-motorized facilities.</p> <p>Rationale: Updating the maintenance manual can support the efforts recommended as part of this plan to improve maintenance and system preservation.</p> | Lead |
| PP-8: Safety | MEDIUM | 13 AAC 02.400 (Operation on Roadways and Paths) | <p>Policy/Regulatory Amendment: Update statute to clarify the statement: "...shall ride as near to the right side of the roadway as practicable." Model language can be found through the League of American Bicyclists. Consider revising requirement to ride in the shoulder.</p> <p>Rationale: The League of American Bicyclists indicates the term "practicable" does not provide clarity for those on the roadway to understand how to behave appropriately. By revising the language, the state can be specific about where bicyclists are expected to increase predictability on the roadway and to help bicyclists make safer decisions about where to ride.</p> | Support |



| Master Plan Goal(s) | Priority | Existing Policy/ Procedure | Recommendation | DOT&PF's Potential Role |
|---------------------|----------|---|--|----------------------------|
| PP-9: Safety | LOW | 13 AAC 03.050 (Driving on right side of roadway; exceptions and special situations) | Policy/Regulatory Amendment: Update language to clearly specify motorists may (are encouraged to) cross the double yellow line if there is no opposing traffic to safely overtake a pedestrian or bicyclist. Rationale: By specifying that this action is permitted, the state can better adopt a safe passing distance law to promote greater safety for pedestrians and bicyclists on the roadway. | Support |
| PP-10: Safety | LOW | None | Policy/Regulatory Amendment: Explore the appropriateness of introducing statute to regulate impaired or distracted users of non-motorized facilities. Rationale: Impaired or distracted use of non-motorized facilities increases the risk of collision with other users of facilities and with motorized traffic. It also slows reaction time, increasing risk to other facility users. | Support |
| PP-11: Connectivity | LOW | 13 AAC 40.010 (Pedestrian Defined) | Policy/Regulatory Amendment: Update definition of a pedestrian to include those who use wheelchairs or other mobility-assistance devices. Rationale: Policy language should be inclusive and reflect the goal to provide a network that is accessible to people of all ages and abilities. | Support |
| PP-12: Safety | LOW | 13 AAC 02.175 (Pedestrians on Highways) | Policy/Regulatory Amendment: Consider modifying AAC 02.175 to specify that “pedestrians walking along a roadway must walk on the sidewalk if a sidewalk is provided, can be easily accessed, and in good repair.” Rationale: A sidewalk that is not in good repair may not be safe, comfortable or accessible for all users. In the case that sidewalks are not properly accessible or maintained, pedestrians should not be legally obligated to use them. | Support |
| PP-13: Safety | LOW | DOT&PF 05.05.015 (Highway Work Zone Safety and Mobility) | Policy/Regulatory Amendment: Update language to specify provisions specific to non-motorized users. Rationale: The existing policy requires that a high level of safety is provided to all roadway users in work zones. Specifying the types of provisions and access that should be provided to non-motorized users can improve safety in work zones by providing clarity as to what constitutes a high level of safety for these modes. | Lead |



| Master Plan Goal(s) | Priority | Existing Policy/ Procedure | Recommendation | DOT&PF's Potential Role |
|----------------------|------------|---|---|----------------------------|
| PP-14: Safety | LOW | DOT&PF: 05.05.020 (Establishment of Speed Limits and Zones) | <p>Policy/Regulatory Amendment: Update to include presence of active transportation as rationale to reduce the speed limit, in addition to crosswalks and pedestrian activity.</p> <p>Rationale: The existing policy establishes pedestrian activity and frequent crosswalks as rationale for reducing speed limits in some areas. This policy should be expanded to specify other non-motorized users to better account for seasonal modes and areas with significant bicycle usage.</p> | Lead |



9

Investment Decision Considerations

The ASATP's vision seeks to ensure people in Alaska enjoy equitable, accessible, safer walking and bicycling opportunities as an integral part of daily life. Implicit in this vision is people's freedom to decide to use active transportation and the associated provision of facilities (*i.e., infrastructure*) and policy and program initiatives (*i.e., training, education, enforcement, and encouragement*) that are supportive of walking and bicycling.

One way to support walking and bicycling facilities, policies and programs is to create a framework to consider the effective allocation of scarce funding to projects and programs in a way that will most benefit people in Alaska and deliver the vision and goals of the ASATP. The development of criteria to guide investment decisions is recommended to enable the objective evaluation of the effectiveness of candidate active transportation projects and program initiatives. In this way, parties proposing active transportation projects and programs can objectively consider whether a project will support the delivery of the goal areas and objectives set out in the ASATP.

The criteria should represent measurable characteristics of candidate projects and programs and enable those that deliver the most benefit to people in Alaska to have the highest likelihood of being funded. Table 11 sets out recommended investment decision criteria for each of ASATP's goal areas.

The recommended investment decision criteria can be used for project evaluation to determine the benefits and costs of a project. The criteria are also connected to the ASATP's performance measures and using them to evaluate projects can support achievement of the vision, goal areas, and objectives. The linkage between each goal area, objective, performance measure, and recommended investment decision criterion is set out in Appendix F.

Figure 15: Goals and Recommended Investment Decision Criteria

Goal Area One: Safety

- Reduces crash rate or potential threat of crashes
- Reduces severity of crashes
- Integrates best practices into facility design
- Increases DOT&PF's ability to gather and use data to prioritize projects

Goal Area Two: Health

- Provides the opportunity to reduce disease/obesity in children, adults and seniors
- Provides mobility options for underserved populations
- Provides safer active transportation to schools and learning centers
- Provides pedestrian mobility for seniors and disabled persons

Goal Area Three: Maintenance & System Preservation

- Funds are available (federal, state, local, other agency or user) to cover the capital cost of the active transportation facility
- Funds are available (federal, state, local, other agency or user) to cover the costs of operation and maintenance of the active transportation facility
- Improves conditions for walking and bicycling
- Completes or connect an active transportation network or system
- Provides potential to reduce motor vehicle congestion

Goal Area Four: Connectivity

- Encourages mapping of facilities and sharing information using technology and interactive platforms
- Provides continuous walking and biking facilities on scenic byways
- Improves connection or access to other modes of transportation (multi-modal connectivity)
- Provides multi-use pathways near population centers
- Creates access to public lands

Goal Area Five: Economic Development

- Improves non-motorized access to employment centers
- Bolsters tourism
- Provides the opportunity to induce a mode shift to walking and bicycling for short trips
- There is public support for the active transportation facility



Appendices

Alaska Statewide Active Transportation Plan



Appendix A

Public Involvement Summary



Appendix A – Public Involvement

The public participation strategy for this plan was robust and included outreach to urban and rural communities across Alaska. Our public outreach team was assembled with careful consideration of differing public outreach skills based on the needs and lifestyles of communities in each geographic region. A Public Involvement Plan was developed and forms Attachment 1 to this Appendix.

A.1 Steering Committee

The purpose of the Steering Committee was to assist the project team throughout the planning process. The Steering Committee provided valuable input on draft documents and plan recommendations. Representatives from organizations listed in below formed the Steering Committee:

- ADA Compliance Program
- Alaska Mobility Coalition
- Alaska State Troopers and VPSO Program
- AEDC Live, Work, Play Trails Initiative
- Bureau of Land Management (BLM)
- Department of Transportation and Public Facilities (DOT&PF)
- People Mover Anchorage
- Skinny Raven Sports
- Citizen Representative
- Municipality of Anchorage
- Alaska Federation of Natives (AFN)
- Alaska Native Tribal Health Consortium (ANTHC)
- Alaska Trails
- Bike Anchorage
- Department of Health and Human Services (DHHS)
- Fairbanks Metropolitan Area Transportation System (FMATS)
- Providence Health and Services
- Sitka Bicycle Friendly Community Coalition
- Vision Zero Anchorage
- Alaska State Parks
- Alaska Marine Highway System (AMHS)
- Alaska Railroad Corporation
- Anchorage Metropolitan Area Transportation Solutions (AMATS)
- Bureau of Indian Affairs (BIA)
- Department of Natural Resources (DNR)
- National Park Service
- Single Track Advocates
- Youth Advocate
- United States Forest Service

The Steering Committee met four times over the course of plan development. The purpose of the meetings was to develop preliminary goals, objectives, and a vision for the bicycle and pedestrian network in Alaska, and work to refine them over the life of the project so that the final plan is a true reflection of needs across communities and demographics. Stewart Osgood and Renee Whitesell of DOWL led and facilitated each steering committee meeting, with support from other team members as needed. The planning team coordinated meetings, prepared meeting agendas and briefing materials, facilitated the meeting in coordination with DOT&PF staff, and recorded meeting notes and action items.

In addition to the three face-to-face Steering Committee meetings, one supplementary teleconference call was scheduled to discuss matters where feedback is required from the Steering Committee, and to provide updates on progress toward plan development. Summary notes from each meeting and the teleconference call are Attachment 2 to this Appendix.

A.2 Public Involvement Plan (PIP)

The PIP was developed by the DOWL team in conjunction with DOT&PF and the Steering Committee. The PIP reflected a strategy designed to gain consensus among stakeholders and the public from the commencement of the project. The PIP served as a guide for two-way communication between the DOWL team/DOT&PF and stakeholders and enabled the public to provide input to the project team about bicycle and pedestrian issues, needs, alternatives, and recommendations. The PIP outlined electronic measures for consideration, such as a project website, online open house, Facebook, electronic surveys, newsletters, and social media. The PIP is Attachment 1 to this Appendix.

A.3 Public Meetings and Comments

The Team held meetings in eight communities across the state:

- **Anchorage:** A meeting was held on September 20, 2016 at East High School between 5:00pm and 7:00pm.
- **Palmer/Wasilla:** A meeting was held on September 21, 2016 at Colony Middle School between 5:00pm and 7:00pm.
- **Soldotna (Kenai Peninsula):** A meeting was held on November 2, 2016 at Soldotna High School between 5:00pm and 7:00pm.
- **Utqiagvik (Northern Alaska):** A meeting was held on April 17, 2017 at the City of Utqiagvik between 12:00pm and 2:00pm.
- **Fairbanks:** A meeting was held on April 18, 2017 at the Raven Landing Center between 5:00pm and 7:00pm.
- **Nome (North-West Alaska):** A meeting was held on April 19, 2019 at the Nome Mini-Convention Center between 5:00pm and 7:00pm.
- **Bethel (Western Alaska):** A meeting was held on April 24, 2019 at the Yupiit Piciyarait Cultural Center between 5:00pm and 7:00pm.
- **Juneau (South-East Alaska):** A meeting was held on March 27, 2018 at the Tlingit and Haida Indian Tribes of Alaska Vocational Training and Resource Center between 5:00pm and 7:00pm.

An additional public meeting was scheduled in Dillingham but following two attempts to visit the city this public meeting was cancelled. A radio call-in show was held in place of a public meeting to elicit feedback on the vision, goals and objectives of the plan. The public meeting summaries are as follows:

- **Attachment 3:** Anchorage public meeting summary, meeting map comments, and comment sheets.
- **Attachment 4:** Palmer/Wasilla public meeting summary and comment sheets.
- **Attachment 5:** Soldotna public meeting summary, meeting map comments, and comment sheets.

- **Attachment 6:** Utqiagvik public meeting summary.
- **Attachment 7:** Fairbanks public meeting summary and comment sheet.
- **Attachment 8:** Nome public meeting summary.
- **Attachment 9:** Bethel public meeting summary and comment sheets.
- **Attachment 10:** Juneau public meeting comment sheets.

A.4 Additional Meetings and Engagements

In addition to the meetings listed above, additional engagements were conducted throughout the state to inform people about the plan, elicit feedback and answer questions. Additional engagements included:

- A booth at the Mat-Su Transportation Fair on September 22, 2016. Newsletter updates were provided as part of DOT&PF's planning booth in 2017 and 2018.
- Newsletter updates at DOT&PF's planning booth at the Anchorage Transportation Fair in 2017 and 2018.
- Presentation to the Soldotna Senior Center in November, 2016.
- Presentation to the City of Soldotna in November, 2016.
- Presentation to American Planning Association Alaska Chapter Planning Conference in November 2016.
- Presentation to the Alaska Trails Conference in April 2017 and April 2018.
- Presentation to Bethel Schools in April 2017.
- Presentation to Matanuska-Susitna Borough Transportation Advisory Board in July 2017.

**ALASKA STATEWIDE BICYCLE AND PEDESTRAIN PLAN
PUBLIC INVOLVEMENT PLAN**

SEPTEMBER 2016

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1.0 PUBLIC INVOLVEMENT PLAN

1.1 General Information

This Public Involvement Plan (PIP) is prepared in accordance with the State of Alaska's Administrative Code 17.05.120. The document outlines the public outreach methods the DOWL Planning Team (Team) will use for the Alaska Statewide Bicycle and Pedestrian Plan (Plan). The Alaska Department of Transportation and Public Facilities (DOT&PF) are developing a Statewide Bicycle and Pedestrian Master Plan to articulate the long- and medium-range bicycle and pedestrian transportation planning needs of the state. The Master Plan will:

- Develop an DOT&PF Bicycle/Pedestrian Mission;
- Draw clear distinctions between the roles and needs of bicyclists and pedestrians;
- Define what needs to be done to encourage and strengthen local bicycle and pedestrian efforts to improve conditions for bicycling, walking and connectivity to public transit;
- Discuss respective roles of state and local governments in planning and designing bicycle and pedestrian facilities; and
- Establish recommendations for performance measures.

This PIP reflects a strategy that is designed to gain consensus among stakeholders and the public. The PIP will serve as a guide for two-way communication between the DOWL team, DOT&PF and stakeholders, and will facilitate the public's ability to provide input to the project team about bicycle and pedestrian issues, needs, alternatives, and recommendations.

1.2 Steering Committee

We propose to have a Steering Committee assist us throughout the planning process. The Steering Committee will provide us with valuable input on draft documents and plan recommendations. We propose to invite a representative from each of the organizations shown in Table 1 to be a member of the Steering Committee.

Table 1-Steering Committee

| COMPANY/ORGANIZATION | NAME | TITLE | EMAIL |
|--|------------------|---------------------------------------|--|
| ADA Compliance Program | Camille Brill | Temporary State ADA Coordinator | camille.brill@alaska.gov |
| Alaska Federation of Natives (AFN) | Maude Blair | Vice President | mblair@nativefederation.org |
| Alaska Marine Highway System (AMHS) | Christa Hagan | Planner | christa.hagan@alaska.gov |
| Alaska Mobility Coalition | Patrick Reinhart | President | info@alaskamobility.org |
| Alaska Native Tribal Health Consortium (ANTHC) | LeeAnn Garrick | Senior Director | lgarrick@anthc.org |
| Alaska State Troopers and VSPO Program | Walter Monegan | Commissioner | dps.commissioner.office@alaska.gov; walter.monegan@alaska.gov |
| Alaska Trails | Steve Cleary | Executive Director | steve.cleary@alaska-trails.org |
| AMATS | Joni Wilm | Bicycle & Pedestrian Coordinator | willmjc@muni.org |
| AEDC - Live Work Play Trails Initiative | Maira Sullivan | Director | msullivan@aedcweb.com |
| Bike Anchorage | Lindsey Hajduk | President | lhajduk@gmail.com |
| Bureau of Indian Affairs (BIA) | Stuart Hartford | Transportation Director | stuart.hartford@bia.gov |
| Bureau of Land Management (BLM) | Mark Spencer | District Manager - Anchorage District | m1spence@blm.gov |
| Celebrate Sitka Cycling | Charles Bingham | Cyclist | charleswbingham3@gmail.com |
| Citizen | Bob Laurie | Citizen | alaskabob1@alaskan.com |
| Denali Randonneurs | Kevin Turinsky | President | denalirandonneurs@gmail.com |
| Department of Health and Human Services (DHHS) | Shaun Willhelm | Policy and Planning | shaun.willhelm@alaska.gov |
| Department of Natural Resources (DNR) | Darcy Harris | Director, Anchorage Parks | darcy.harris@alaska.gov |
| DOT&PF | Marcheta Moulton | Project Manager | marcheta.moulton@alaska.gov |
| DOT&PF | James Boyle | Transportation Planning Manager | james.boyle@alaska.gov |
| DOT&PF | Marie Heidemann | Planner | marie.heidemann@alaska.gov |
| DOT&PF | James Starzec | Planner | james.starzec@alaska.gov |
| DOT&PF | Duane Hoskins | Planner | duane.hoskins@alaska.gov |
| FMATS | Donna Gardino | MPO Coordinator | donna.gardino@fmats.us |
| National Park Service | Paul Clark | | paul1_clark@nps.gov |
| People Mover Anchorage | Bart Rudolph | Director | RudolphBH@ci.anchorage.ak.us |
| Providence Health & Services | Sara Penisten | Safe Kids Alaska | sara.penisten@providence.org |
| Single Track Advocates | Janice Tower | Single Track Advocates | singletrackadvocates@gmail.com |
| Skinny Raven | Hallidie Wilt | Running Club | hallidie@skinnyraven.com |

Please note: Some organizations assigned an alternate to represent their organization. Those names will be updated once we hold the first steering committee meeting.

| COMPANY/ORGANIZATION | NAME | TITLE | EMAIL |
|---|-----------------|---|--------------------------|
| Southeast Road Runners | John Kern | President | johnakern@gmail.com |
| USDA Forest Service | Susan Detwiler | Director of Public Affairs & Partnerships | susankdetwiler@fs.fcd.us |
| Western Federal Lands Highway Division (WFLHD) | Pete Field | Program Officer | peter.field@dot.gov |
| Youth Advocate | Ellie Mitchell | Youth Advocate | superal@gci.net |
| Vision zero | Katie Dougherty | | doughertykl@muni.org |

The Steering Committee will meet every six months starting in September 2016 (see **Table 2** for meeting schedule). The purpose of these meeting is to develop preliminary goals, objectives, and a vision for the bicycle and pedestrian network in Alaska, and work to refine them over the life of the project so that the final plan is a true reflection of needs across communities and demographics. Stewart Osgood of DOWL will lead and facilitate each steering committee meeting with support from other team members as needed. The Team will coordinate meetings, prepare meeting agendas, and briefing materials, facilitate the meetings in coordination with DOT&PF staff, and record meeting notes and action items.

1.3 Interactive Website and Facebook Account

In order to provide the public and stakeholders with a central location to find information, we will set up and maintain a website and Facebook page. We propose to use the standard DOT&PF format for planning projects. The main menu tabs will mirror the respective sections of the agreed upon plan outline. Other menu tabs will include upcoming meetings, frequently asked questions, contact information, link to the public survey, schedule, and an e-newsletter sign up page. The website will be updated frequently by the Team's project administrator, Charles J. Guinchard, so that information is current.

The Team will work with DOT&PF headquarters to develop and maintain the Facebook page. Once we get the Facebook page and website published, we will create an announcement with plan information and boost the post. By boosting the post, we are able to reach a targeted market of interested users, such as bicycle and pedestrian advocates, across the state.

1.4 Public Meetings

The Team proposes to hold meetings in 9 communities across the state: Anchorage, Fairbanks, Juneau, Bethel, Nome, Barrow, Soldotna, Dillingham, Kenai, and Wasilla/Palmer. We propose to conduct a wider group of public meetings for the data gathering and needs assessment phase. The meeting schedule is in Table 2 below:

Table 2 - Meeting Schedule

| Year | Month | Day | Meeting | Location |
|------|-----------|--------------|-------------------------------|---|
| 2016 | September | 20 | Public | Anchorage |
| 2016 | September | 21 | Public | Palmer/Wasilla |
| 2016 | September | 22 | Steering Committee | Anchorage |
| 2016 | November | 1-3 | Public | Soldotna |
| 2017 | April | Week of 10th | Steering Committee and Public | Fairbanks, Bethel, Dillingham, Nome, and Barrow |
| 2018 | January | Week of 22nd | Steering Committee and Public | Juneau |

1.5 Conferences

We propose to hold pop up open houses and workshops at upcoming conferences to gather input and feedback from a large group at one time. We will identify conferences to attend in the PIP and with input from the Steering Committee.

<<Conference attendance is not part of our contracted scope of work – DOWL identified conferences to attend and developed a budget for conference attendance – currently no budget amendments have been processed. DOWL will discuss with PM and confirm approach for this section >>

1.6 Interviews

The Team will conduct interviews with DOT&PF planners and engineers, private and public sector firms working in transportation, and elected officials. The purpose of the interviews will be to identify key challenges with current policy and procedures, and discuss ideas on ways to make improvements. The goal will be to focus on a bottom-to-top and top-to-bottom product so that when DOT&PF implements a new policy and guidance, the staff responsible for implementing these changes will have been part of the planning process and feel ownership of

the plan. The Team will develop a list of interview questions and individuals to be interviewed in coordination with DOT&PF's Project Manager.

1.7 Email Communications

The Team will assemble a contact list through existing resources and public meetings. All information materials such as surveys, newsletters and meeting announcements will be sent out to public contacts via Constant Contact. Constant Contact is an email system that allows the Team to create and maintain a contact list in one central location. The system also tracks the number of emails opened, not opened or returned because of a bad email address. This tool allows the Team to implement and measure public outreach success via email communication.

1.8 Newsletters

The Team will prepare and distribute up to three newsletters announcing project milestones, public meetings, and requesting public input via surveymonkey.com. All newsletters will include a link to the survey.

1.9 Surveys

The Team will utilize the website to collect input from the public. The public can provide general comments via the website. The website and comments section will be updated throughout the planning process. The comment/survey page will be made available until the public comment period closes in April 2018. The Team will develop hard copy surveys to key organizations to hand out to the elderly, disabled, and individuals who may not have access to or want to use a computer, and provide during public meetings/events.

1.10 Online Open House

In accordance with 17 AAC 05.145, the Team will hold a 45 day online open house to present the draft and recommendations and receive public comments. We will use the website developed for the Plan to present the sections of the draft and the appendices. The Team will provide written notice to interested persons and members of the public review group informing them of the 45 day online open house.

1.11 Comment/Response Log

The Team will create and maintain a comment response log for the draft report. Each comment that is received will be documented and addressed. Comments that are substantial will be responded to via email, and comments that are editorial or are small, will be addressed in the document. All responses to comments will be discussed with the DOT&PF Project Manager before they are addressed.

1.12 Media Outreach

The Team will work with existing stakeholders to share announcements about public outreach methods, upcoming meetings, and key milestones that the public needs to be informed on, as determined by the DOT&PF. Tribal organizations such as Association of Village Council Presidents (AVCP), Kawarek, and Tanana Chiefs Conference (TCC) will be used to distribute information to surrounding communities in each region.

The Team will also use local radio stations, libraries and schools to get information out rural communities.

In some cases, a translator may be needed to convert public outreach materials into Alaska Native languages.

1.13 Project Communication

DOWL will be responsible for developing, implementing, and managing the PIP, and communications relating to the plan. Comments regarding the Plan will be collected by DOWL, summarized, reported to DOT&PF, responded to, and incorporated into the planning effort. **Table 3 includes** the planning team's role and contact information.

Table 3: Team Contacts

| Name | Agency | Role | Phone | E-mail |
|------------------|---------------|----------------------|--------------|-----------------------------|
| Marcheta Moulton | DOT&PF | Project Manager | 907-465-8769 | marcheta.moulton@alaska.gov |
| Stewart Osgood | DOWL | Project Manager | 907-562-2000 | sosgood@dowl.com |
| Renee Whitesell | DOWL | Lead Project Planner | 907-562-2000 | rwhitesell@dowl.com |
| Adison Smith | DOWL | Rural Planner | 907-562-2000 | adsmith@dowl.com |
| Fred Young | Alta | Bike and Ped Planner | 206-735-7466 | fredyoung@altaplanning.com |

1.14 Plan Evaluation

After each public involvement event, the planning team will evaluate the public's response and input, and discuss and agree on any needed adjustments to the scope and budget with the DOT&PF project manager. The project team will solicit feedback from DOT&PF and the Steering Committee regarding the public outreach efforts.



STEERING COMMITTEE MEETING #1 NOTES

PROJECT OVERVIEW AND GOALS

The Alaska Department of Transportation & Public Facilities (ADOT&PF) Division of Program Development is developing a comprehensive Statewide Bicycle and Pedestrian master plan to promote a safe and efficient bicycle and pedestrian network and infrastructure to encourage bicycling and walking. Our team is working to create a master plan that will also develop the supporting programs necessary to promote and increase bicycling and walking as transportation modes. This includes data collection, public involvement, financial/economic analysis, policy analysis, and recommendations.

Major Discussion Items:

1. **Safety Minute**
2. **Introductions**
 - Introduction to the project team
 - ADOT&PF
 - DOWL
 - Alta Planning + Design
3. **Project Purpose**
4. **What the Plan is and isn't**
5. **Current Policies**
6. **Progress to Date**
7. **Next Steps**
8. **Role of the Steering Committee**
9. **Discussion Questions (for open discussion and feedback)**
 - Future bicycle network
 - Future pedestrian network
 - Rural bicycle and pedestrian network
 - Gaps in the bicycle and pedestrian network policy currently
 - Key areas for future bicycle and pedestrian policy to focus on

10. Questions and Answers

Meeting Summary:

Planning Process/Finalization

There was discussion about what happens once the Master Plan is finished, and how the plan will be implemented without the project team's further involvement. The Master Plan will be signed and accepted by the Commissioner of DOT and also FHWA. The finalized document will not go to the State Legislature or any other elected body. The DOT&PF Project Manager hopes that this document will be a reference guide for all designers in the future to refer to for walkers and bikers. Advocacy and community support will be essential for this plan to have lasting effects.

Steering Committee Involvement

There was discussion about the Steering Committee meeting timeframes and if the current schedule is flexible and whether or not the meetings coincide with project milestones. The Steering Committee will convene at major milestones to provide a contribution to document content and to support document critique and review for draft sections of the plan that may be available. The steering committee will reconvene in April once the project team has established the inventory and started to develop the needs analysis. There will be at least one more Steering Committee meeting prior to presenting the document to the public.

Planning Direction and Policy Recommendations

This was a discussion about the effectiveness and implementation of the Master Plan. Committee members expressed concern that guidelines can simply remain guidelines unless they are **mandated in pre-construction manuals**. The project team explained that establishing firmer, more specific goals will lead to more inclusive design guidelines on projects in the future. When the last Statewide Bicycle and Pedestrian Master Plan was developed in 1995, DOT&PF received a directive to consider non-motorized use. Crash data changed, and additional space was added in the form of shoulders. This is a continuously evolving situation. DOT&PF is continuously seeking to better accommodate non-motorized transportation in the Right of Way (ROW) and also on recreational trails. **Another committee member suggested an Alaska-wide bicycle and pedestrian advocacy group to educate on safety, work on grants, connect community, all items that will assist to help bicycle and pedestrian safety.**

One committee member from Southeast Alaska stated that the 1995 Alaska Bicycle and Pedestrian Master Plan is lacking in specific policy points and would like to see a Complete Streets Policy in the new Statewide Bicycle and Pedestrian Master Plan. The public is starting to see a few of these plans emerging in Alaska to ensure that roads are built for all users, not just cars. This was a discussion about consciously creating large roadways separating major attractors (i.e. schools and residences). **The committee**

member also expressed a need for a vulnerable users' law. This type of law has higher repercussions for drivers who hit/kill a vulnerable road user. **There was common interest expressed in a safe passing law (i.e. 3 foot law for passing a bicycle) in addition to slower speed limits in areas with higher bicycle/pedestrian traffic like neighborhoods, school zones, etc.**

There was a lot of discussion about previous funding structures and how those have changed throughout different legislative administrations. There is no standard funding structure for pedestrian infrastructure within different municipalities and boroughs across the state. **A statewide policy for a spending quota could be helpful for different regions to establish a similar standard in funding allocations.** The project team explained that communities will need funding to meet the performance targets in the plan. The public understands budgets are tight, and while not every project will be a major overhaul, **there can still be significant improvements made if funding allocations are prioritized for bike/ped infrastructure now and into the future.** There are models of good systems around the state – FMATS has developed a toolkit in partnership with DOT&PF for pedestrian facilities and tries to encourage DOT&PF to follow suit. There is flexibility in funding guidelines from FHWA, DOT&PF and USDOT but the pre-construction manuals set hard and fast rules. The steering committee recognizes that community input and voice will get a lot done.

One Committee member reminded everyone that economic development should also be a factor in addition to community development. Both of those aspects attract people to live in communities. However, Alaska is unique because of the maintenance aspect. **Communities could consider "Adopt a Trail" initiatives to cut down on maintenance costs.** ADA compliance is also a big issue and needs to be addressed when thinking about accessibility and maintenance. Often times there are **tradeoffs** for safer, more separated paths and maintenance. For example many of the bike routes in Fairbanks are set up to be easier to be maintained but have poor separation. This often presents challenges to transit operators and users who desire more frequent access and more stops that either aren't built or are not all maintained.

There was extensive discussion surrounding rural Alaska. Alaska ranks as #1 for people who walk to work, #6 for people who bike to work and the committee and project team recognizes a lot of those numbers stem from villages. **One of the strategies discussed is having a policy that steers the state toward developing localized plans for specific areas through the Statewide Plan.** Indian Road Reservation (IRR) (now Tribal Transportation Program (TTP)) funds can be used for bike/ped projects, great way to leverage to get larger projects. In addition, the Alaska Native Tribal Health Consortium (ANTHC) has been collecting injury data, would be good to analyze this to understand causes of crashes and whether improvements can address issues surrounding off road vehicles and rural pedestrians. More concrete data will ultimately provide better access to funding opportunities, this is something the committee and team both would like to grow by working with community partners. Perhaps setting a standard for data collection and

reporting in the master plan would be helpful in the future. The project team will reach out to ANTHC to gather information they are collecting.

There was a lot of discussion surrounding education. Education about biking and walking benefits, access, and safety for those commuting to and from school, namely children is a concern. Education surrounding road users is also a challenge. Most drivers do not educate themselves about current or changed laws and there is even confusion about state laws vs. municipal laws and how those apply differently in different areas. **Committee members would like to see local laws in addition to bike/ped laws on driver exams as opposed to only state laws.**

Zoning is also a challenge in many communities. **One steering committee member recognized that public infrastructure is not attractive when developing a property privately, but pedestrian facilities are important and should be mandated in planning and zoning laws.** Good facilities ultimately increase property values, but there are tax measures that could be put in place for developers that don't account for sidewalks, secure bike racks, etc.

At the end of the meeting steering committee members and the project team alike expressed interest in **establishing a technical advisory committee**, reaching out to other people from unrepresented regions/demographics to invite more feedback, and expressed interest in reviewing the public involvement plan to make sure the project team is engaging as many people as possible.

Action Items

1. Consider adding additional Steering Committee Meetings to the scope and budget.
2. Provide the Steering Committee with the draft outline of the report.
3. Provide the Steering Committee with the PIP.



STEERING COMMITTEE MEETING #2 NOTES

Meeting Summary:

Overview

This Steering Committee meeting focused on the development of the Vision, Objectives and Goals to guide the Alaska Statewide Bicycle and Pedestrian Master Plan. Information was taken from the previous Steering Committee meeting and also community feedback and provided to the Steering Committee prior to the meeting as key themes to guide the development of the Vision, Objectives and Goals. Information that was heard prior to the meeting was summarized into a PowerPoint presentation, and additional feedback through the meeting discussion was captured. This summary captures the key themes heard during the meeting.

Vision

Feedback prior to the meeting included:

- Guide transportation development decisions to maximize public benefits from transportation investments in Alaska.
- Promote awareness of the needs of those walking and cycling.
- Words like leverage, encourage, equitable, facilitate transformation, maximize.

Discussions in the meeting included using words/phrases such as:

- Connectivity, mobility, intermodal, accessibility
- Hard to do State plans that represent all communities, particularly in a place like Alaska – need words like inclusive. It cannot be a one size fits all due to diversity of community represented.
- We need to consider priorities – need to prioritize non-motorized transportation. Bicycle and pedestrian facilities should be provided when rebuilding sections of roads, and they shouldn't be considered a luxury and the first thing that is eliminated to save cost. This may be difficult with 1R projects, but should be a priority with 3R projects.

Goal Area 1: Increase Active Transportation Funding in Alaska

Feedback prior to the meeting included:

- Setting aside a percentage of funds for active transportation is very importance

- Developing a statewide policy quota
- Create partnerships, funding opportunities with the healthcare industry
- Create partnerships with private industry, generate investment in active transportation infrastructure on private sites
- Promote awareness to Legislature

Discussions in the meeting included:

- Provide recognition that DOT&PF does have set-aside through the TAP Program
- There is a need to recognize that FMATS, AMATS have their own plans and funding, but there is a disconnected network in between.
- Consider using a scoring mechanism for funds such as what is used in the STIP, with higher scores awarded to projects with a greater level of active transportation provision.

Goal Area 2: Safety

Feedback prior to the meeting included:

- Creating wider roads needs more specificity, as it can result in speeding up traffic.
- Improving intersection standards needs specificity.
- Wayfinding signage with travel distances is good in rural areas.
- Consider active transportation safety in State Highway Safety Plan objectives.
- A single database to collect safety data is a great idea.
- Add something to these goals and objectives about winter snow removal.
- Consider lighting.

Discussions in the meeting included:

- Providing lighting is very important, particularly in the winter.
- Consider road design elements and their impact on safety, particularly roundabouts, right hand turn lanes, etc. Also road widths and classification create different safety considerations which need to be factored in when considering non-motorized transportation facilities.
- Consider developing a statewide safety advocacy group.
- The plan needs to provide designs for all ages and abilities, and have a goal about what level of facility we are looking to provide.
- Active transportation facilities are not necessarily appropriate on all major facilities. Alternative routes can and should be considered where they are not appropriate.

Goal Area 3: Economic Development

Feedback prior to the meeting included:

- Question whether this should be addressed in a DOT&PF Statewide plan.
- Focus on connections that enhance economic value.
- Promote awareness of how bicycle/pedestrian facilities, infrastructure, planning, etc, can improve economic conditions.

- Encourage a statewide study that quantifies existing and potential benefits of better infrastructure.

Discussions in the meeting included:

- Provide priority to projects that provide linkages between residential and commercial districts, including connecting businesses to trails, wayfinding, etc. Consider whether this is economic wellbeing or connectivity.
- Walkability and bikability score rankings can increase the value of neighborhoods when it comes to selling property. The team were encouraged to think about local ordinances and working with developers to see the value of bicycle and pedestrian facilities.
- Tourism is a key area where active transportation can grow economic wellbeing. Consider whether a good trail system will mean visitors to Alaska will stay for longer?

Goal Area 4: Maintenance/System Preservation

Feedback prior to the meeting included:

- Encourage allocation of, or identify additional funding for maintenance of non-motorized facilities.
- Coordinating with other organization to improve winter snow removal is very important.
- Design of facilities to enable easier maintenance is very important.

Discussions in the meeting included:

- DOT&PF currently have a policy requiring a statement of how maintenance will be paid for at the outset of a project.
- Need to consider how maintenance can be shared rather than being a burden for DOT&PF – consider adopt a trail, adopt a sidewalk, etc.
- Organizations have historically received complaints about spending money to maintain facilities if they're not available for half the year.
- Snow removal is a particular issue. Communities should provide feedback on what priorities there should be for snow removal on trails and bike paths, and there may not be consistency in application.
- Consider comparing what capabilities and equipment each organization has, and trading to ensure best form of maintenance for limited budget is happening.
- Consider whether, on the basis of a cost per user, bicycle and pedestrian infrastructure maintenance is being funded consistently with other modes of transportation.

Goal Area 5: Improve Design Standards

Feedback prior to the meeting included:

- Adding active transportation facilities to the Highway Preconstruction Manual, and incorporating design manuals and guidance is important.
- Encourage communities to adopt Complete Streets.
- Encourage the use of Context Sensitive Solutions (CSS)
- Develop thresholds for when certain non-motorized transportation is warranted.
- It is often difficult to fit bicycle facilities into resurfacing projects due to ROW widths.

Discussions in the meeting included:

- Adoption of Complete Streets should be a decision made by a local community.
- Non-motorized transportation is always warranted, need to consider pedestrian facilities in particular in every design.
- DOT&PF needs to look at the range of design guidance available and develop its own standards to suit the Alaska situation (climate, funding, geography, etc).
- The Highway Preconstruction Manual already includes a standard which requires consideration and accommodation of non-motorized use where possible. Any updates to the Manual will cost money, and there needs to be recognition that there has already been improvements year-on-year since the requirement to consider non-motorized use was introduced.

Goal Area 6: Health

Feedback prior to the meeting included:

- Encourage development of educational materials.
- Maps/wayfinding with minutes to destination/calories burned to destination information.
- Encourage partnership with the health industry.
- Question raised about whether this goal area is actionable by DOT&PF.

Discussions in the meeting included:

- Diverse feedback on whether this is an actionable goal for DOT&PF in the context of this being an active transportation plan. Particular care will be needed to about how to quantify health goals.
- Need to consider whether partnerships would assist to deliver on health goals, and to reduce barriers to health created by transportation infrastructure.

Goal Area 7: Education

Feedback prior to the meeting included:

- Consider PSAs around active transportation (i.e. 30 second "Did you know...")
- Consider use of newspaper articles, commercials.
- Could an app be developed to promote active transportation in Alaska?
- Question raised whether Every Day Counts initiative is relevant to education.

- Question raised whether this goal area is actionable by DOT&PF.

Discussions in the meeting included:

- General discussion on whether education was in the purview of DOT&PF. Owing to Safe Routes to School Program and Highway Safety Office, it appears clear that education is part of its role.
- Encourage communities to educate each other on active transportation (i.e. use of social media to share routes, etc).
- Consider education to support cyclists who are not clear on how to ride safely in public places.
- Utilize educational tools like Bicycle rodeos to educate young people on active transportation safety.
- Consider educating the population about the costs and savings associated with making active transportation choices.
- Consider employing a dedicated Bicycle/Pedestrian Coordinator in the State.

Goal Area 8: Connectivity

Feedback prior to the meeting included:

- Recommend amending language since the plan will not include a list of project priorities/recommendations. Include language such as 'encourage'.
- Develop an online map resource of state owned sidewalk/path/trail network as well as all sidewalks and paths that are not state owned.
- Develop printed map resources.
- Identify gaps in the network.

Discussions during the meeting included:

- Maps and online resources are helpful – consider using phone based maps.
- Data collection will be helpful, and should be a key goal. However it will be important to look at data collection efforts being developed by others to reduce duplication (i.e. Google).
- Need to look at connections relative to demand, particularly in smaller communities.
- Consider connections to public lands and potential overlaps particularly in the provision of trails.
- Need to consider multimodal connections as well.
- Consider the Last Mile to Transit concept as an important way to support non-motorized transportation facilities and leverage efforts.



AK STATEWIDE BICYCLE & PEDESTRIAN MASTER PLAN

PROJECT NO. 2516H013

STEERING COMMITTEE MEETING #4 Notes
MARCH 28, 2018 at 10:30 a.m.

PROJECT OVERVIEW AND GOALS

The Alaska Department of Transportation & Public Facilities (DOT&PF) Division of Program Development is developing a comprehensive Statewide Bicycle and Pedestrian Master Plan to promote a safe and efficient bicycle and pedestrian network and infrastructure to encourage bicycling and walking. Our team is working to create a master plan that will also develop the supporting programs necessary to promote and increase bicycling and walking as transportation modes. This includes data collection, public involvement, financial/economic analysis, policy analysis, and recommendations.

Attendees:

- Marcheta Moulton (DOT&PF)
- Jackson Fox (FMATS)
- Alicia Stevens (FMATS)
- Stephanie Mormilo (MOA)
- Don Galligan (FNSB)
- Steve Cleary (Alaska Trails)
- Darcy Harris (Alaska State Parks)
- Stewart Osgood (DOWL)
- Sharon Fife (Forest Service)
- Marie Heidemann (DOT&PF)
- James Starzec (DOT&PF)
- Paul Clark (National Park Service)
- Brian Lindamood (ARRC)
- Scott Thomas (DOT&PF)
- Jim Potdevin (DOT&PF)
- Rory Renfro (Alta Planning + Design)
- Renee Whitesell (DOWL)
- LeeAnn Garrick (ANTHC)

STEERING COMMITTEE FEEDBACK AND DISCUSSION

Bicycle and Pedestrian Facility Design Best Practices:

- Clarification was sought on whether there would be a minimum standard for paved shoulders. Renee clarified that currently the standard is 4-ft. Bob noted that previously DOT&PF had a directive of a 6-ft minimum paved shoulder, but that disappeared somewhere. This is particularly important if a rumble strip is to be provided, and he would like to advocate for 6-ft paved shoulder wherever possible
- DOWL has been reluctant to call out specific minimum standards and dimensions in the planning document. Rather, we are referencing design standards and other reference materials, and remaining more general in our discussions in the plan. Perhaps we should consider adding a "desirable minimum or as stated a specified standard" to the plan.
- One member questioned whether we are looking at sidewalk standards as well. He has noticed that some of the design stuff seems to work against walkers (used example of crossing Seward Highway between Sears Mall and Fred Meyer, where three crossings are needed instead of one) because of the intersection geometry and the dual left turn lanes. This adds a lot of additional walking effort for elderly, disabled, etc. Cuts walker and driver conflicts, but there are better ways to do this such as having a longer, multi-way pedestrian signal. Confirmation was given that this plan will set out guidance to

encourage more direct pedestrian facilities, and existing design issues such as the example given can be addressed through individual projects (e.g. DOT&PF's ongoing Midtown Congestion Relief project).

- Is DOT&PF going to be doing more of the same, or will this plan recommend changes/improvements in the provision of bicycle and pedestrian facilities? In relation to reliable and consistent prepared surfaces, there needs to be a space available for non-motorized use of the ROW, regardless of the surface. This is a change from the previous approach, as it requires that ROWs are designed and allocated for non-motorized use, rather than purely for roads. With regard to design standards, DOT&PF has a list that is already used. As new facilities are designed, the latest design factors will be used. For scaled accommodations, there is recognition that what is appropriate for one highway may not be appropriate for another facility. This also applies to the political desires at the time the facility is constructed (more money, different level of commitment). The Plan will recommend improvements that are scaled, and provide appropriate accommodations at the time the facility is constructed. We have heard that where facilities are modernized (even for Type A users), this has made a considerable difference even in the more remote areas of the state. There are gaps (i.e. sections of the Glenn Highway that haven't been modernized). There is recognition that DOT&PF controls a certain proportion of the ROW, and should be setting a best practice example, but local communities are responsible for the remainder and there are established plans and standards in these locations. The plan will recognize that facilities should be designed and constructed in a manner that provides for maintenance, so they can be more easily taken care of. There is recognition that M&O budgets are always squeezed, and will continue to be squeezed. The report didn't want to be too specific, but sought to raise the bar overall. The team doesn't believe that this is status quo, but it provides recognition that where things are being done well, we need to keep doing them; and where things can be improved, we need to call that out and set the target higher.
- There was appreciation of the recommendations for wise investment, collaboration, and especially in urban communities. There was also appreciation the work that DOT&PF has been doing.
- One Steering Committee member noted they would like to see more collaboration between the State and local communities when projects do happen. The example used was the Halibut Point Road resurfacing project in Sitka, which was completed about 5- yrs ago. DOT&PF was initially going to replace the bridges just as they are (without pedestrian or bicycle facilities or shoulders). There was very little contact with DOT&PF on the planning of the road, and finally had to call engineers down to Sitka to address this. Some revisions were included, but not enough. The member would like to see more collaboration with communities, not just turning up in communities with poorly advertised public meetings when designs are largely complete. One member suggested there may be the potential for some sort of guidance/questions about whether the character of the area has changed to a point where a level of intervention greater than a pavement preservation project should be considered. Need to think about the context of the area/project as some time could have passed and improvements may be appropriate.
- The planning team noted that expectations do need to be better defined, especially when 1R projects are being undertaken. The planning team also discussed whether passing on the pavement rehabilitation project and waiting for a couple of additional years could be appropriate, to enable a more comprehensive project to be undertaken.

- Another project example was improving biking and walking access on Sona Street in Sitka (STIP project). This project has resulted in options that maintain the status quo rather than generating improvements, as the title suggests.
- We should consider ways we can be more efficient in combining projects so construction projects aren't being completed twice (i.e. roads being pulled out shortly after completion for utility upgrades). There needs to be more planning and community collaboration as part of project development.
- Project Manager Marcheta Moulton noted some early success stories through her involvement with Western Federal Lands program coordination, which has avoided the need for roads to be resurfaced multiple times.
- One Steering Committee member enquired about how much of the Plan will be devoted to Safe Routes to School (SRTS). He understands there was a lot of money that was turned back into federal government. Marcheta Moulton confirmed money wasn't just diverted into something else, it was spent on SAFETEA-LU improvements. The last school project was recently finished. The State is aware there are groups pushing for a stand-alone program, but the State is looking at how additional funding can be directed to SRTS. It was a Congressional direction that SRTS would no longer be a stand-alone program. Very few schools applied for TAP funding for SRTS (one). A significant issue is finding the champions that have the match funding, and this is now a competitive process. This document will address SRTS as an element of the plan, but it is not a SRTS plan.
- In Sitka there are other groups that can contribute to SRTS, not just the School Districts.

Performance Measures:

- DOT&PF Project Manager Marcheta Moulton noted that along with the update of the ASBPP, the Strategic Highway Safety Plan (SHSP) is also being updated and FHWA is also introducing new performance measures for DOT&PF to implement. There has been close work with SHSP team to ensure that there is no duplication of effort, but there are several other performance measure issues going on.
- One member noted he was having some difficulty connecting the performance measures to the objectives, and the actual implementation of the performance measures. Used example of count collection recommendations. He has asked how this is going to occur? This seems to be a big bite of the apple, and many of the other performance measures don't make that leap.
- The intention is that performance measures will eventually be wrapped into the Plan. Some of the original performance measures were grouped together to enable the tracking of progress over time.
- The recommendations are not a list of absolute requirements – these are recommendations that can be taken forward to benefit DOT&PF.
- How we are going to judge the effectiveness of the Master Plan?
- DOT&PF Planning Chief Marie Heidemann noted part of the difficulty is that we don't have the data to measure everything. The performance measures recommended are well rounded, and capture the broad range of issues. The biggest challenge is to try and work within what we can measure, so when this plan is updated in the future we can understand progress.
- These performance measures are being crafted to show progress in the implementation of the Master Plan. This isn't a 'maybe' list, it is a means to demonstrate that DOT&PF is accomplishing its goals and therefore they need to be measurable.

- Some of the recommended performance measures are more measurable than others, and this has been something that DOTs throughout the U.S. have been dealing with. This was one of the major reason for adding the forth column in the memorandum, to understand what measures will be easily implementable, and what will require additional work. These will also not be measured by DOT&PF alone, local and community partners also need to contribute. Because of the scale and uniqueness of Alaska, measuring performance statewide may not be effective so drilling down to a regional level may be necessary to have a better understanding of where good performance, versus the need to improve occurs.
- There needs to be a focus on performance measures that are measurable, and able to be implemented. Subjective measures cannot be relied on. The plan should have an emphasis on data collection to support performance measures. When DOT&PF is measuring its success/failure on something it doesn't control, there is no ability to do something about it.
- The team noted that some of the goals are quite binary, and some need additional work to make them SMART. Further consideration can be given to make them measurable.
- Bike and Walk-Friendly Community applications use to the 5Es – engineering, education, encouragement, enforcement, evaluation and planning – could we consider these in the performance measures? An example given was decreasing speed limits to make roads safer for non-motorized users.
- There is appreciation that the Plan it will encourage/force DOT&PF to look at the direct impacts of facilities, less measurable targets will also move DOT&PF toward greater integration with the rest of the system. Whilst this may be fuzzier, it is still valuable so don't lose sight of the overall improvements, not just what DOT&PF is doing.

Work Plan:

- Remember that Alaska has the highest percentage of people that walk and bike to work. This is why this Plan is so important, we need to make sure that this is accommodated in all our planning.

Marcheta and Renee Whitesell will be attending the Trails Conference and available to discuss the Plan. Steve Cleary offered to discuss the conference with anyone interested.



AK STATEWIDE BICYCLE & PEDESTRIAN MASTER PLAN

PROJECT NO. 2516H013

STEERING COMMITTEE MEETING #3 (Teleconference) Notes FEBRUARY 26, 2018 at 1:00 p.m.

PROJECT OVERVIEW AND GOALS

The Alaska Department of Transportation & Public Facilities (DOT&PF) Division of Program Development is developing a comprehensive Statewide Bicycle and Pedestrian Master Plan to promote a safe and efficient bicycle and pedestrian network and infrastructure to encourage bicycling and walking. Our team is working to create a master plan that will also develop the supporting programs necessary to promote and increase bicycling and walking as transportation modes. This includes data collection, public involvement, financial/economic analysis, policy analysis, and recommendations.

Attendees:

- Marcheta Moulton (DOT&PF)
- Kat Shuey (State of Alaska)
- Pierce Schwalb (Bike Anchorage)
- Bart Rudolph (MOA Transit)
- Don Galligan (FNSB)
- Dawn Groth (DHHS)
- Jim Amundsen (DOT&PF)
- Stewart Osgood (DOWL)
- Sharon Fife (Forest Service)
- Marie Heidemann (DOT&PF)
- James Starzec (DOT&PF)
- Paul Clark (National Park Service)
- Brian Lindamood (ARRC)
- Scott Thomas (DOT&PF)
- Emily Ferry (Alaska Trails/SRTS)
- Rory Renfro (Alta Planning + Design)
- Renee Whitesell (DOWL)

STEERING COMMITTEE FEEDBACK AND DISCUSSION

Vision, Goals and Objectives:

Goal 1: Safety

- Objective (4): Use of "must include" could create problems, and not all facilities are appropriate for bicycle and pedestrian facilities. The state and municipality in Anchorage are also creating a network of bicycle boulevards as a parallel network. Plan should encourage people to provide the facilities, or divert to alternative facilities, particularly when there is a better, safer option already in place.
- Encourage is acceptable if there is another facility in place, but this needs to be a caveat/requirement rather than assuming that an alternative will be provided. There are locations that there is only one way in and out, and there is a need to ensure facilities are provided.
- Be mindful that when people are biking and walking, they will look for the shortest route possible. It would be positive for the state to consider bicycle and pedestrian facilities in every case.
- Considering facilities is required by federal law, in every federally funded project. Note that this is different to a requirement that facilities are provided.
- This matter was also discussed in our design workshop and performance measures.

Goal 2: Health

- Ensure the material in the memoranda are incorporated into the objectives, and set performance measures consistent with this.
- Would appreciate a little more specificity. Some specific feedback has been required by email.

Goal 3: Maintenance/System Preservation

- Feedback has been received from the public about desire to keep trails/facilities open on a year-round basis.

Goal 4: Connectivity

- A reference to connecting schools, parks and neighborhoods would be helpful.

Goal 5: Economic Development

- Include enhancing tourism in this goal.
- Encourage Alaska to be viewed as a cycle touring destination.
- The State frequently receives calls seeking long-distance travel/bicycle touring guidance.

Vision/Goals/Objectives Generally

- Include information about how the vision/goals/objectives were developed based on public comment/feedback, memoranda, and input from federal goals and objectives.
- The vision/goals/objectives for other states were also researched, to ensure that these were not developed in a vacuum.
- Some would like a discussion of each of the goals and objectives, what they are there to achieve, where they came from and what they will lead to. While it is good to have a concise listing, it is also good to understand some of the thinking behind them.

Safety Data Analysis Summary Report:

- DOT&PF has reviewed data findings and is currently updating the data through 2015, which should be complete in the next two weeks. Scott Thomas (DOT&PF Traffic Engineer) noted that he has not reviewed the bullet points in detail, but bicycle/pedestrian collisions are both serious, and seriously over-represented.
- This memo was very powerful and made the data available and simple to understand, which will help the public understand the safety issues.
- One thing that would be helpful to further add value to the data is the denominator (overall population and exposure to crashes). There are statistical challenges with doing this however, particularly given the influence of the tourist season. We could

certainly try to normalize the data, but we will need to recognize that there are other influences.

- There is a desire for performance measures to track plan performance and success over time for crash rates. There is a need for careful consideration of whether the data will support policy decisions.
- Trend data is heading downward in some categories (fatalities and serious crashes). However, there are also areas of concern where there is a need for improvement. Some locations/intersections/intersection types/volumes are showing clusters that are problematic for bicycles and pedestrians. We should be able to gauge ourselves against the rest of the country, and prioritize improvements. It will be positive to illustrate the plan with some of the success stories in the last two decades, such as increasing rates of bicycling and walking, and yet the crash rate is trending downward. Within Alaska, we can see the return on investment in bicycle and pedestrian facilities.
- It would be good to have more data, particularly for rural Alaska, but we have gathered a lot of good, and informative information.
- We discussed whether public reporting platforms for collisions was being considered. There are some sites to report near misses/safety concerns, but not a documented collision to support this. We have not yet seen a standardized reporting mechanism. States are making their crash reporting forms more comprehensive, which is helping to understand the root causes of incidents.
- The Alaska Injury Prevention Center staff have pointed out that police are not trained to characterize nature of injuries sustained in collisions. It is currently extremely difficult to link injury/trauma data with a police report. Further complicating this is that some people reporting with trauma come to a care provider on their own, and others come in with police.
- This issue is not unique and is similar to crashes involving motor vehicles. Crash reporting has a varying degree of quality, which introduces data inconsistency.
- One Steering Committee member questioned the statement that most accidents occurring in rural Alaska are not reported. This may be a here-say statement.

Future Funding and Needs Analysis:

- Classification of E-bikes – are they being categorized as bicycles, or mopeds?
- In most jurisdictions there is a restriction on the number of watts for bicycles utilizing bike lanes and bike paths, which varies from jurisdiction to jurisdiction.
- The multi-use trail network in Anchorage is limited to skis at a maximum 12MPH.
- New AASHTO design guide raises design speed limited to 20MPH for trails, which will potentially cause an issue for vulnerable users, such as parents pushing strollers.
- The term 'non-motorized' by its very nature implies no motor. E-bikes have motors so they should be excluded from consideration in non-motorized plans.
- In other states and jurisdictions speed limits have been an issue. E-bikes do however create positive benefits by creating opportunities to participate in active transportation for more people, including elderly and disabled people.
- Other jurisdictions have also grappled with issues such as providing for vehicles like golf carts in bike lanes. Thought has also been given to provision for autonomous bicycles.

- As the technology develops, the ability to tell the difference between e-bikes and standard bikes will be almost impossible.
- In Anchorage e-bikes are currently limited to a speed of 19MPH, with a 750watt motor. This is a high threshold and, could move the bikes a lot faster than 30MPH.
- We need to acknowledge e-bikes in the plan, including both the drawbacks and the benefits of widening active transportation opportunities for a broader range of user groups.
- A deeper review of e-bikes, and development task force to consider statewide and local laws could be a recommendation of this planning effort. It would be good to consider other electronically assisted active transportation tools such as segways and hoverboards as well.
- There was discussion about whether the two percent figure for state funding quoted in the memo was correct for Alaska. This was confirmed, and it was noted language in legislation limits state to 2%. However, any provisions made as part of 3R or other projects (i.e. a wide shoulder), doesn't count in that two percent. Once these are factored in, it would be clear that DOT&PF spends a lot more than two percent on the construction of bicycle/pedestrian facilities.
- The actual contribution that DOT&PF makes to the construction of bicycle and pedestrian facilities in Alaska is not easy to track. We could consider encouraging project managers to break out facilities, so they can be accounted for and better illustrate DOT&PF's considerable commitment to providing bike/ped facilities. It would be good for this type of requirement to be part of the plan, but care will be needed as it can be difficult to quantify the value of facilities when they are included as part of a larger surface transportation project. At a minimum, a discussion around how projects are provided, and the value over and above the known two percent contribution would be a valuable inclusion in the plan.
- Projects that generate benefits for bicyclists/pedestrians may not be specifically aimed at bicyclists/pedestrians.
- We need to be aware that 9 percent of people bike/walk to work – this is the highest in country.
- Please add an additional funding source – cruise ship tax for SE Alaska and coastal communities provides significant funding for bicycle/pedestrian facilities.

State and User Profiles:

- Questions were raised about the practical application of these profiles and what they are going to be used for. The planning team confirmed they are a way to understand people and physical characteristics, due to the vastness of the state. The profiles reinforce the need to be context-specific, and one size fits all cannot apply for Alaska. As we consider design, intersection design, highway modernization, etc., there is a need to be aware the needs will be different. The profiles are intended to paint a broad picture of nuances.
- The team is looking to gather data on uses and use rates, and then set performance measures, which is addressed in subsequent memoranda.
- Dependent on the regions, the primary reason for the trip is helpful to inform facility design.

- Necessity trips need more attention, especially during the winter months (as this is a key part of maintenance).
- One Steering Committee noted he found the overview during the meeting more helpful than the memo, and asked for the memo to be revisited to make its intent clearer. The value of the profiles was questioned, and whether this memo is useful.
- A Steering Committee member considers that bicycle security is missing, and requested recommendations for ensuring that businesses offer safe and secure parking.
- The pre-construction manual discussion on selection of facilities based on the dominant users. This will help feed into the decision-making process.
- An understanding of users will also tie into data collection. It will hopefully encourage better programs in partnership with other organizations.

Economic Benefits:

- Economic development is particularly important. The Department of Commerce, Community and Economic Development are doing a study on the different economic drivers in the state, and one area being focused on is 'outdoor economic development'. Dependent on the status of the study we may be able to work in partnership.
- In rural Alaska gas prices has a significant effect on the number of people walking, which was covered in a White Paper printed in the Alliance for Biking and Walking Benchmarking report for 2012.
- One Steering Committee member queried whether these will be the same numbers to be used in the Anchorage Non-Motorized Plan. The Anchorage Plan will probably drill down to a deeper level.
- One Steering Committee member noted a lack of citations for dollar values, and requested more extrapolation of the methodology. Source citations can be added to help interpret where figures came from, as the sources will frequently have a different interpretation of the data.
- The planning team did take some of the more nationalized models tailored them to be Alaska specific.
- Many of the numbers quoted in the memo may be conservative.
- A Steering Committee member noted from a policy perspective it would be good to have a matrix to apply for project evaluation to understand the percentage of mode shift and associated economic benefit. It is generally easier to monetize the cost than the benefit.
- A discussion occurred on education spending for transportation. If more people walk/bike to school, this is a good way to generate education savings to the state. Historically, the State pays the school bus costs for students living more than 1.5 miles from the school. However, in a lot of locations, including Anchorage, the School Districts are paying a lot of money out of pocket.

Health Logic Model/A Healthier Alaska:

- The health logic model spells out what is known intuitively.
- A Steering Committee member noted in short-term outcomes one of the columns says increase walking and biking and increase rates of children and adults – increase safety in all seasons throughout Alaska ‘including policies supporting increased separation of pedestrians/vehicles’. There is insufficient money in the state budget to fully implement separation. It’s not supported by improved safety statistics, operational costs, and flies in the face of all bicycle and pedestrian policy over the last 30 years or more. There are some places where it is appropriate, and some places where it is unnecessary. It was agreed that this should be revisited.
- The outcomes listed are intended to guide the development of policies and intended to articulate qualitative benefits of plan. The mechanism for measuring some of these is through the DHSS project, and through the Center for Disease Control and Prevention.
- The March Steering Committee meeting will be going over best practices and performance measures. We will also look at who ‘owns’ the measure, and what is the best practice for reporting.

Count Collection Recommendations:

- The Committee discussed evolving technology and how “big data” will help supplement data available over time. We believe data availability will continue to increase, and is likely to provide a greater level of information on transportation modes. The assembly of, and making sense of the data will be the bigger challenge.
- DOT&PF Highway data staff have been involved in discussions on data collection. The funding of data collection will be a significant issue. Currently the data collection team operate statewide with a budget of \$2.8M, of which \$2.7M is spent on federally mandated programs. There is very little budget available to accommodate additional data collection. There was discussion on the collection of pedestrian and bicycle counts for individual projects, but there are inconsistent count locations statewide. Consistency is important to gather trends over time. Specific counts on a specific project may not be enough.

Closing Comments/Thoughts:

- A lot of tasks note that data collection is key. Will this be a bigger part of the Master Plan than initially expected? Marcheta Moulton on behalf of DOT&PF agreed data collection is a very large part of measuring the plan’s success, but the decision was made to focus on policy development to encourage a greater level of walking and cycling activity and investment rather than gathering data. This plan provides an opportunity to emphasize how improved data will help to enhance decision-making to enable the greatest benefit for investment to be derived. We can also emphasize how data will help us make more intelligent decisions.

- The programming of the STIP is using some data-driven criteria, but this may not be capturing bicycle and pedestrian needs well. The planning team should consider a policy recommendation to better articulate bicycle/pedestrian needs in STIP criteria, so when projects are being scored, non-motorized transportation is being particularly considered.
- When considering specific projects bicycle and pedestrian counts are frequently taken. However, the data is only used for the project for which the data is collected. It would be good to have a centralized location to capture the data for future use, so it can be used in the future.

Project Manager Closing Comments:

- Concern/commentary that the State and User Profile Memo needs more critical consideration. We will make sure that this is providing value to the overall project.
- Comments about trying to quantify the benefits and reference benefits (particularly on the economic side) – we will revisit this.
- Vision/Goals/Objectives – need to ensure good connection, particularly on safety.
- Care is needed around policy for e-bikes. The starting position is generally they are not welcome, but they are becoming increasingly accepted. There are particular concerns about excess speeds on narrow trails specifically, similar to concerns about high-speed road bikers on narrow trails.
- Further consideration/clarification about what percentage of the program is spent on bicycle/pedestrian facility improvements was encouraged. We need to keep trying to quantify this value. There is interest in how other states quantify this value, and some research can be undertaken to understand the approach taken by other states.
- Thanks to everyone for their time and effort/contribution to the plan. No comment will be overlooked. Our goal is to create a useful plan, and we are working to prepare the plan so people and organizations can use it.

Subject: Statewide Bicycle and Pedestrian Master Plan – Public Meeting**Date: September 20, 2016****Time: 5:00 PM to 7:00 PM****Location: East High School, Anchorage, AK**

Meeting Notes

The Alaska Department of Transportation and Public Facilities (DOT&PF) and DOWL conducted a public meeting for the Statewide Bicycle and Pedestrian Master Plan on Tuesday, September 20, 2016 at East High School in Anchorage, Alaska. The purpose of the meeting was to discuss the project purpose and need, present the project development process and schedule, and gather information the public. Ten people attended the meeting in person. DOWL also live streamed the meeting via Facebook. Twenty people viewed the presentation via Facebook.

DOWL advertised the meeting via the Alaska Dispatch's online calendar, constant contact email to community members, local governments, community councils, local and state politicians, the DOT&PF Facebook website, and through a Public Service Announcement (PSA) on 28 different local radio stations.

The meeting started with an open house from 5:00 PM to 5:45 PM. Project materials included display boards with thoughtful questions about bicycle and pedestrian topics, large maps of the state of Alaska, and copies of the presentation. The public was encouraged to provide feedback to project team members, on written comment forms, or via email at the project website.

At 5:45 PM DOWL provided a PowerPoint presentation with an overview of the project goals, history, and project area. After the presentation the public engaged in a dialogue with project team members. The following is a summary of the public questions/comments and project team responses:

Public Notification

DOWL's public involvement lead discussed the project team's plan to conduct outreach in the rural communities by traveling to engage stakeholders in public meetings, working with tribal councils, city councils, and tribal organizations. There will be digital ways to access meetings as well for those in surrounding communities.

Maintenance

Discussion about how communities can maintain bicycle and pedestrian infrastructure throughout the winter and summer seasons year while keeping budgets small during the State of Alaska's looming budget deficit. Locally maintained roadways and paths especially need maintenance. The public asked

about DOT&PF and the Municipality reprioritizing road plowing and selling most of the machines doing sidewalk removal. The planning team expressed that there are good examples of well-maintained pedestrian facilities like Elmore Road's bike lane, but there aren't enough of those examples throughout the state. Policy for major road projects providing for bike lanes/pedestrian facilities will be part of this Plan. As far as winter maintenance, the term has different meanings to different people; the planning team cannot know for sure what this will look like in the plan until we have more outreach and conduct our analysis. One attendee noted that DOT&PF recently said trails are Tier 4, which means a cul-de-sac on the Hillside has the same priority as a trail along Benson Boulevard – This needs to be reevaluated. There were also numerous ideas about how to maintain bicycle and pedestrian infrastructure during construction by going curb to curb to keep sidewalks in tact throughout construction. Ultimately the DOT&PF gets a lot of federal help to build projects, but none to maintain projects. Communities rely on advocacy and activism of passionate people to support bike/pedestrian infrastructure.

Policy

The public asked if this plan will identify projects or set policy. There were multiple suggestions from participants and ideas about how to collect data. The planning team went on to explain that this is a policy document that will set out objectives, standards and goals which will enable consistency in future projects as part of the STIP process. The planning team is looking into specifics like the 3 foot rule carried out in Washington, and collecting bike and pedestrian counts to establish needs. This plan will ultimately be approved by the Federal Highway Administration (FHWA) and the DOT&PF Commissioner before it is adopted.

Project Implementation and Execution

The public asked how DOT&PF is currently accommodating other existing bike/pedestrian plans that are developed by other entities, and how DOT&PF works with other state agencies to procure funding and make sure connectors are consistent. The planning team expressed that local policy documents will be most useful in specific project areas. The planning team wants to support these documents but also doesn't want to water down good work those groups are already doing. The goal is to save money and resources to be as effective as possible, recreating work that is already done is not in the plan. The planning team is aware that there are other agencies like Parks and Recreation, The Alaska Railroad Company, etc. and the project team has engaged with these groups to make sure stakeholder feedback is all encompassing.

Funding

The public asked how the plan will work from a policy standpoint if funding is not coming from federal government or the State of Alaska. The planning team responded stating that it is very difficult to strictly enforce, but are hopeful that if we are developing a document with a statewide focus that can be implemented by various entities, including tribal and local governments. The plan will create policies that are realistic and enhance opportunities to get funding from various sources.

Accessibility and Shared Use:

The public asked about public transit and accessibility for disabled and elderly people. The planning team will include people mover and other transit stakeholders as part of the steering committee and transit planners within DOT&PF will be integrally involved in development of the master plan. Additionally, the project team has engaged organizations that represent disabled and elderly adults in Alaska and welcome recommendations on other people to include. This plan will aim to address all pedestrian infrastructure users.

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- public infrastructure investments to help countries to "green" a part.
- low carbon investment - giving the priority.
- like "green" so bills can be taken to market.
- Connectivity, Safety, Health - road funding for this vision.
- accept non-mechanical public or corporate road users

- Development Sub-areas a candidate for the full plant
- Permanent station
- Main sub-area for the full implementation.

Plowing behind street plowing not allowed
- Educating those drivers

Spacing between pedestrian signal on high speed roads.
Improve intersection signal sequencing.
Improved awareness of other road users.

Five linkages - joints and the round brackets were blue (but didn't have to be) but there are gaps.



COMMENT SHEET – PUBLIC MEETING

Anchorage, AK

Tuesday, September 20, 2016

Please provide your comments on:

- What you would like to see in your community
- How bicycle/pedestrian improvements would affect you

On-road bike infrastructure should be included in every resurfacing / pavement rehab project. That must be the default option, and it ~~must~~ must be more difficult (procedurally, in terms of bureaucratic processes) for DOTPF not to include on-road infrastructure. Given funding constraints and the volume of "shove and pave" projects, this is by far the best opportunity to expand bike infrastructure quickly & economically.

Every single neighborhood should have safe & convenient bike and ped infrastructure. This is equally important in rural and urban Alaska.



COMMENT SHEET – PUBLIC MEETING

Anchorage, AK

Tuesday, September 20, 2016

Please provide your comments on:

- What you would like to see in your community
- How bicycle/pedestrian improvements would affect you

For new bike paths, excavate far enough to get below tree roots. The 1st phase in Anch. (Chester Creek) soon had bumps in the pavement from roots expanding under it. Would cost more initially, but avoid later maintenance costs. AW Oakes



Subject: Statewide Bicycle and Pedestrian Master Plan – Public Meeting

Date: September 21, 2016

Time: 5:00 PM to 7:00 PM

Location: Colony Middle School, Palmer, AK

Meeting Notes

The Alaska Department of Transportation and Public Facilities (DOT&PF) and DOWL conducted a public meeting for the Alaska Statewide Bicycle and Pedestrian Master Plan on Wednesday, September 21, 2016 at Colony Middle School in Palmer, Alaska. The purpose of the meeting was to discuss the project purpose and need, present the project development process and schedule, and gather information the public. Ten people attended the meeting in person. DOWL also live streamed the meeting via Facebook. Ten people viewed the presentation via Facebook.

DOWL advertised the meeting via the Frontiersman's online calendar, constant contact email to community members, local governments, community councils, local and state politicians, the DOT&PF Facebook website, and through a Public Service Announcement (PSA) on 28 different local radio stations.

The meeting started with an open house from 5:00 PM to 5:45 PM. Project materials included display boards with thoughtful questions about bicycle and pedestrian topics, large maps of the state of Alaska, and copies of the presentation. The public was encouraged to provide feedback to project team members, on written comment forms, or via email at the project website.

At 5:45 PM DOWL provided a PowerPoint presentation with an overview of the project goals, history, and project area. After the presentation the public engaged in a dialogue with project team members. The following is a summary of the public questions/comments and project team responses:

Public Outreach Methods

The public suggested to include notice of public meetings in school newsletters in the future and to run a newspaper advertisement. It was suggested to choose a different, larger location to accommodate more people and to choose a time frame that would accommodate commuters, who work in Anchorage, time to travel home from Anchorage. The project team explained that the meeting was advertised in the Frontiersman online calendar (9/12/16). PSAs on 28 different radio stations, Facebook event, Constant Contact blast to city, state, and local representatives and public entities, and ensured the public that there will be more opportunities to engage the public. The planning team stated that they will include schools in future public outreach efforts.

Discussion about engaging rural/tribal communities took place. The public questioned the efforts that were going to take place in rural Alaska. The planning team stated that they will engage rural communities and invite key stakeholders to participate in the Steering Committee Meetings. The planning team will be traveling to the several communities across the state, partnering up with tribal organizations to get the word out about the meetings and planning effort. The planning team has established relationships and plan to use representatives within communities to conduct outreach in rural communities. If translation of materials is needed, then this is something the team will discuss with DOT&PF. The planning team will use PSAs, fax machines, and local forums to participate in discussions.

What the plan is and what it isn't.....

The public wanted to know how policies are currently written and if the plan would identify projects, the public raised concerns about specific projects throughout the Wasilla/Palmer area. The planning team explained that this project is focused on policy and goals for the Alaska Bicycle and Pedestrian Network. The public asked if the goals identified in the 1995 plan were met, or if any of the projects were built. The planning team responded stating that it is difficult to determine whether the goals were met in the old plan because there are no specific goals with metrics to measure. The planning team assured the public that the goal of this plan is to include metrics so that the goals can be measured and DOT&PF held accountable for what they said they were going to do.

Project Implementation and Execution

Discussion about how this plan will be implemented took place. The public asked if there will be different standards for roads, trails, and established paths in different communities and what those measurements would be based off of. The planning team explained that there are different standards for roads and how they will be classified. Ultimately it really depends on the level of improvement that is being done on the roadway. This plan will hopefully bring clarity to standards that are expected and realistic to implement.

Funding

Discussion about how the plan is being funded took place. The planning team explained that this project is funded by the FHWA and funds were allocated several years ago. The old plan needs to be updated which is one of DOT&PF's planning requirements. The planning team wants to make sure that this plan will enable the public to be involved in meaningful decisions. The public expressed interest in greater transparency surrounding funding for road construction projects and better access to decision makers throughout the planning and design process to better understand how federal, state, and borough funding is used to get projects developed. The planning team pointed attendees toward the DOT&PF Complete Street Policy/Methodology. The State of Alaska has a directive for complete street approach, but only methodology for pedestrian pathways. Projects are only required to comply by federal guidelines if they are federally funded, if the project is totally state/borough funded then they will not be required to comply with complete streets methodology.

Maintenance

There were numerous questions about trail and path maintenance during the winter months. The planning team stated that they are aware that maintenance is a significant issue, and will be addressed in the plan.

Accessibility and Shared Use:

One attendee expressed concern for wheelchair and mobility challenged pedestrians. There was also concern about motorized ATVs using pedestrian trails in rural areas and signage about shared use on roads and trails. DOT&PF does not allow non-motorized traffic on the right hand side of the white line. The planning team stated that this will be addressed in this plan, and that they will be analyzing the need for this in rural Alaska as well.

Project Team:

DOWL chose Alta as a teaming partner specifically as they have done work nationally and internationally in cold climates. They will be helping the team take the experience they have on a national level and then right-sizing it for Alaska. This plan will have State of Practice solutions. There will be demographic analysis, health impact analysis, and healthy and active communities analysis going into this new master plan. Transit groups are also working with the project team to ensure that these connections are considered.



COMMENT SHEET – PUBLIC MEETING

Palmer, AK

Wednesday, September 21, 2016

Please provide your comments on:

- What you would like to see in your community
- How bicycle/pedestrian improvements would affect you

Gravel -

paths adjacent to roads may be closed by road closures but snow.

snow plows will plow in snow on path path & know hit .. separate

path records seen in snowplow

Separated
Paths -
less

DotHelm

aktrailrun@gmail.com

DOT Helm Damage

aktrailrun@gmail.com



COMMENT SHEET – PUBLIC MEETING

Palmer, AK

Wednesday, September 21, 2016

Please provide your comments on:

- What you would like to see in your community
- How bicycle/pedestrian improvements would affect you

Whenever DOT upgrades a ^{collector} road like Fairview Loop Rd, it should only improve as much that can have pedestrian accommodation also,

DOT misleads residents about money allocated & switched around - namely additional money acquired due to resident appeal to the legislature & through bonding. Yet DOT is improving the road to improve vehicle safety & neglecting pedestrian safety.

Dan Elliott

Subject: Statewide Bicycle and Pedestrian Master Plan – Public Meeting**Date: November 2, 2016****Time: 5:00 PM to 7:00 PM****Location: Soldotna High School, Soldotna, AK**

Meeting Notes

The Alaska Department of Transportation and Public Facilities (DOT&PF) and DOWL conducted a public meeting for the Alaska Statewide Bicycle and Pedestrian Master Plan on Wednesday, November 2, 2016 at Soldotna High School in Soldotna, Alaska. The purpose of the meeting was to discuss the project purpose and need, present the project development process and schedule, and gather information the public. 30 people attended the meeting in person.

DOWL advertised the meeting in the Kenai Peninsula Clarion's classified section, constant contact email to community members, local governments, community councils, local and state politicians, the DOT&PF Facebook website, and through a Public Service Announcement (PSA) on local radio stations.

The meeting started with an open house from 5:00 PM to 5:30 PM. Project materials included display boards with thoughtful questions about bicycle and pedestrian topics, large maps of the state of Alaska, and copies of the presentation. The public was encouraged to provide feedback to project team members, on written comment forms, or via email at the project website.

At 5:30 PM DOWL provided a PowerPoint presentation with an overview of the project goals, history, and project area. After the presentation the public engaged in a dialogue with project team members. The following is a summary of the public questions/comments and project team responses:

Property Lines and Accessibility

The audience had several comments and questions about land use/access for pedestrians. The Kenai Peninsula is a mix of state and private lands. Meeting participants discussed creating a map that would indicate land owner contacts in order to assist with easements for future development and general understanding of public access and use. Laws and regulations in the area are a challenge to understand, making a definitive outline of what access/use is allowed in what areas would assist the public for motorized and non-motorized off road transportation. Volunteer organizations have challenges contacting and working with land owners. A utility map would assist organizations in leveraging utilities. Powerline Pass as an example is a highly used area, but in order to create infrastructure permitting has to come from land owners and utility companies. There were suggestions to include policy in regards to river access (bike and pedestrian as well as put ins for non-motorized modes) along the Kenai and other water ways in the area. Many people commute by the river and use it for recreation purposes year

round. The audience suggested that all new roadways that are built need to have non-motorized pathways parallel to them; especially on major arterials (this was discussed in the 1994 Statewide Bicycle and Pedestrian Master Plan). The project team noted that this would be added to their considerations for the region.

Funding

The public asked how the plan will work from a policy standpoint if funding is Federal Highway Administration (FHWA) and if there is a percentage required to be spent on trails rather than just roads. The project team stated that they would check and follow up with the group on this.

There were also several inquiries about alternative funding for tribes and smaller communities about how to obtain maintenance funding or funding for other bicycle/pedestrian projects in the state as ways to provide incentives for the state and businesses to offer alternative travel options and/or benefits to Alaskans. Tribes in particular could look into ways to provide incentives to shareholders for commuting, establishing bike share programs, etc. as a way to promote healthy communities and save money.

Policy

There were questions about specific policy points from the audience. Participants suggested that the state's pre-construction manual be updated to incorporate the Bicycle and Pedestrian Master Plan's design guidelines. The Cooper Landing Bypass project in particular – would this plan affect that project specifically? DOT&PF's project manager explained that this is more of a policy setting, guiding document and won't necessarily dictate the development of any laws. This document will, however, set specific standards that the team hopes the project will conform with. There were also inquiries about rail plan coordination with the Alaska Railroad Corporation and whether or not any umbrella plans will be considered in this project. DOT&PF will work with all necessary entities to see this plan is carried out as inclusively as possible. Other attendees expressed concern for driver awareness and what is being done to increase knowledge of shared use laws. Updating the state's drivers manual was one suggestion about how to reach people.

There were other, Kenai specific questions. The audience questioned what is considered rural vs. urban, and how the Kenai Peninsula will be classified. Participants suggested creation of a user fee payable at the time of purchase for off road vehicles (snow machines, ATVs, etc.) as a way to maintain off road infrastructure. Because of the Kenai Peninsula's off road trails, some being dirt, some paved, and some gravel, one user suggested different speeds to protect cyclists and pedestrians based on road conditions.

Safety

The Principal of Soldotna High School inquired about how safety plans would be incorporated into this document. DOT&PF is coordinating with TAP funding for Safe Routes to School to ensure that safety is a top consideration in the creation of this plan. The audience also expressed concern about isolated bike trails and the challenge that poses to commuters. Bike and pedestrian trails should be created along

roadways with a minimum of an 8 foot shoulder if separation is not available, so as to ensure proper lighting, safety, and accessibility to residents. It was also noted that separation between ATVs and bicycle/pedestrians should be a priority to enhance safety. In addition, connections should be established between recreational trails and commuter trails to increase user accessibility. Residents expressed interest in establishing a system to maintain asset management, safety, and system performance in order to maintain trails and pathways. Signage and trail system information was also requested.

Other attendees suggested that signalization be improved for longer crosswalk times as well as signal variations to accommodate disabled trail users. Oftentimes disabled people are forced into roadways due to lack of maintenance or accessibility to trails and public transit stops. Enforcement in all of these areas will also be necessary to help the public understand and abide by any new laws or policies.

Communication

The audience suggested that there needs to be one website to house all bike and pedestrian information. The project team explained that the DOT&PF has created a website for this project, www.akbikeped.com, which could be used in the future for the central location to store maps, policy documents, meetings, and project details.

Maintenance

The audience expressed concern about snow storage and maintenance of trails during colder seasons to ensure accessibility year round. Road signs, striping along roadways and pedestrian paths, as well as directions signs are also a request.

Economic Development

The audience expressed interest in developing tourism around bicycle/pedestrian infrastructure. As mentioned above under funding, establishing bike share programs at ferry terminals, airports, and other key places in communities would be a great way to promote healthy communities and promote tourism and economic development in cities. One attendee suggested a statewide advertising campaign could get this program off the ground as well as help communities understand the goal of this document.

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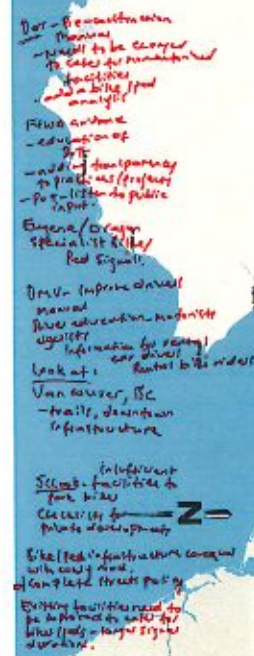
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- Public outrage in frustration to think of losses to innocent people.
- Law enforcement - bring the priority.
- like "bombs" - to kill can be from in trouble.
- Connecticut, Indiana, have the - bomb funding for this office.
- accept non-industrial public or legislative board work

Demnach sind vor- & Nachteile beim pfl. Plant

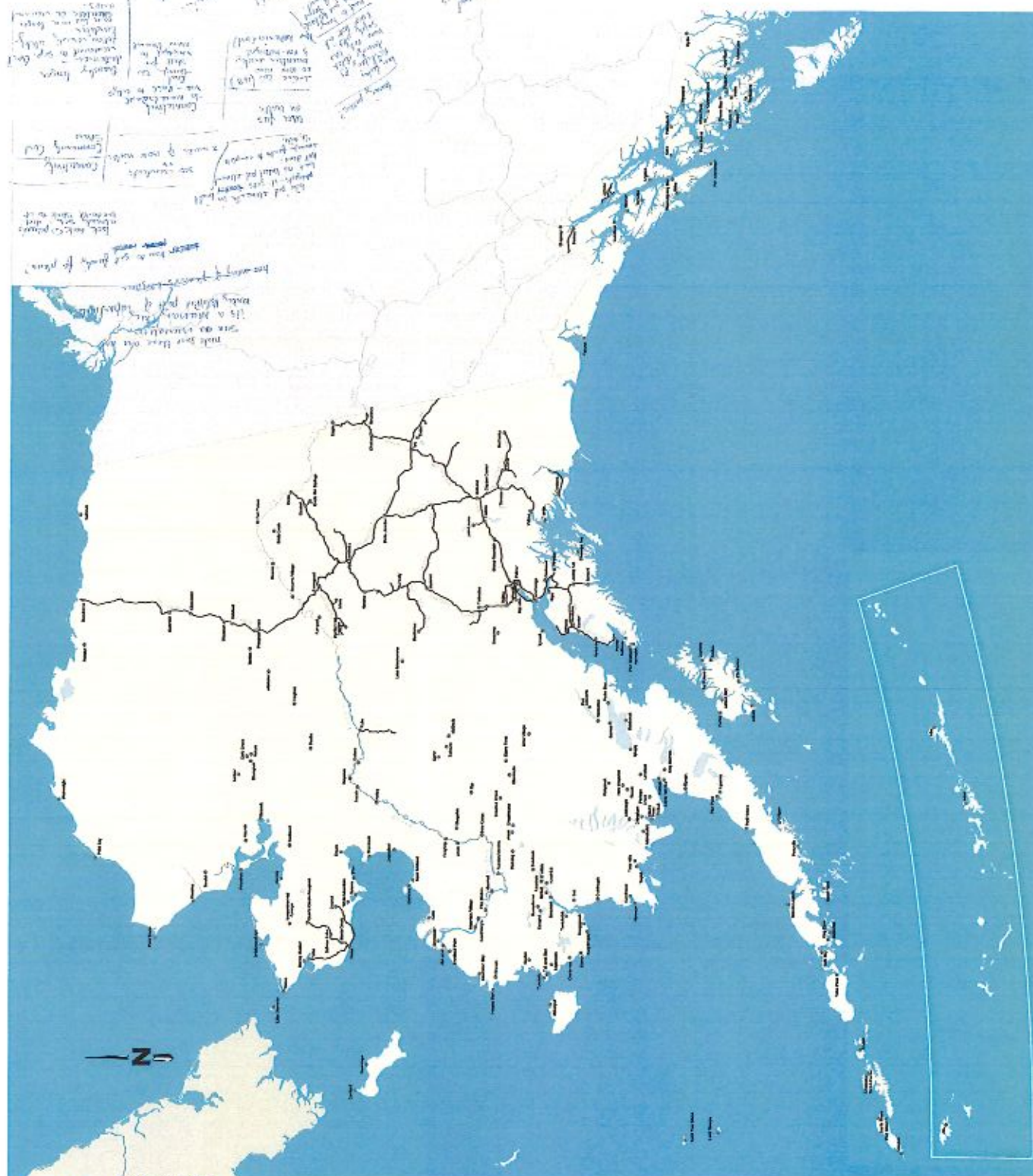
- Pflanzenanbau
- keine Schadstoffbelastung der Luft

Transit - accessibility - intermodal hubs, park & ride transit
 Planning based street planning not around it.
 - Educating how drivers?

Make provision for disabled people so they don't have to be awkward.
Spacing between pedestrian signals at high times of travel.
Improve lateral access signal sequencing.
Improve awareness of other road users.
Highways: Calmed - greater eye contact.

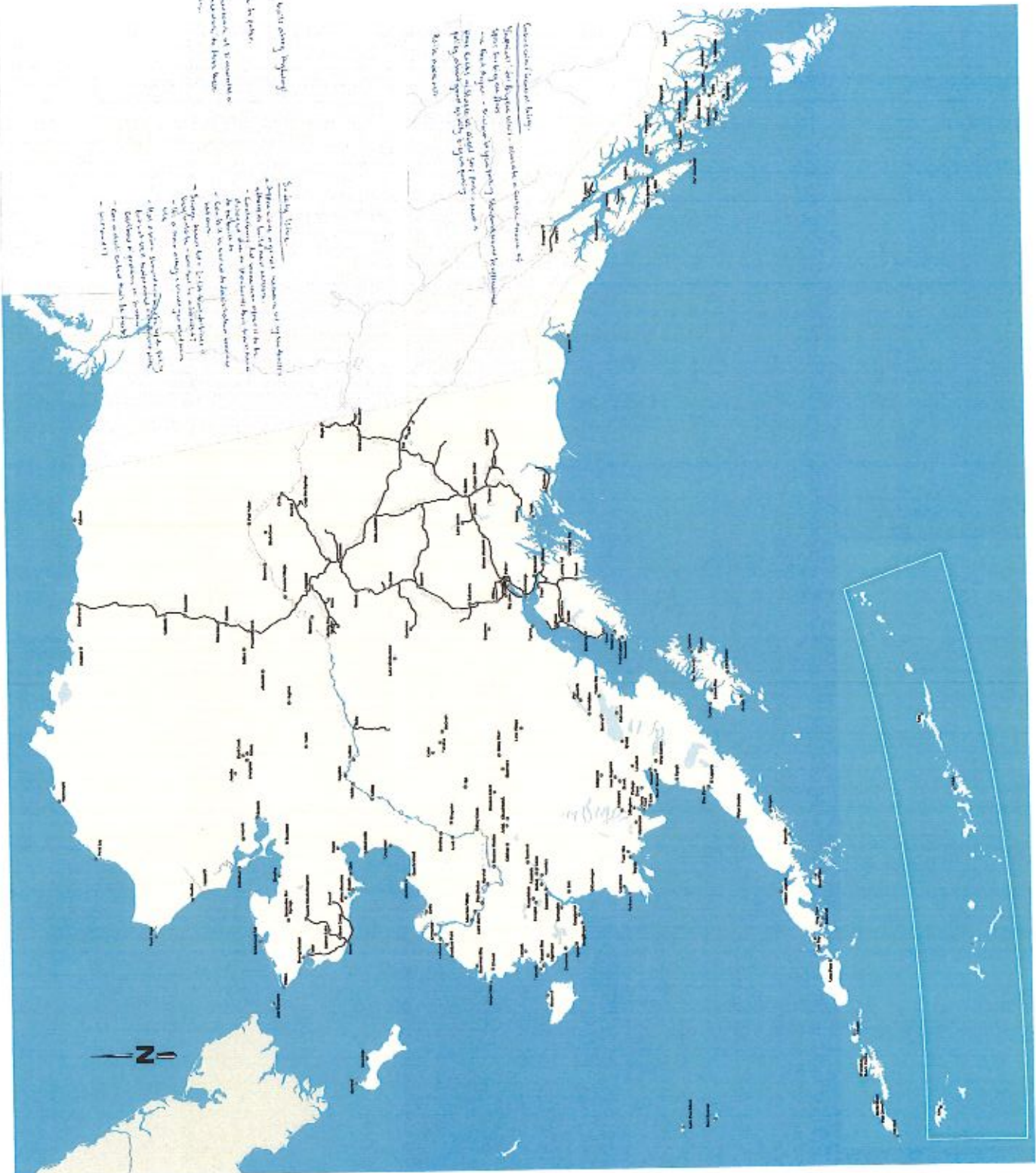
Five changes - South side the road (streets) where the foot
pedestrians have been worried but these are good.

The following notes are for the map of the
 Hawaiian Islands, showing the location of
 the various islands and the names of the
 various groups of islands. The names of the
 islands are given in the order in which they
 are located, from north to south. The names
 of the groups of islands are given in the
 order in which they are located, from north
 to south. The names of the islands are
 given in the order in which they are located,
 from north to south. The names of the groups
 of islands are given in the order in which
 they are located, from north to south.



N

Get comp. org. Bce map for
 Kenai perm.

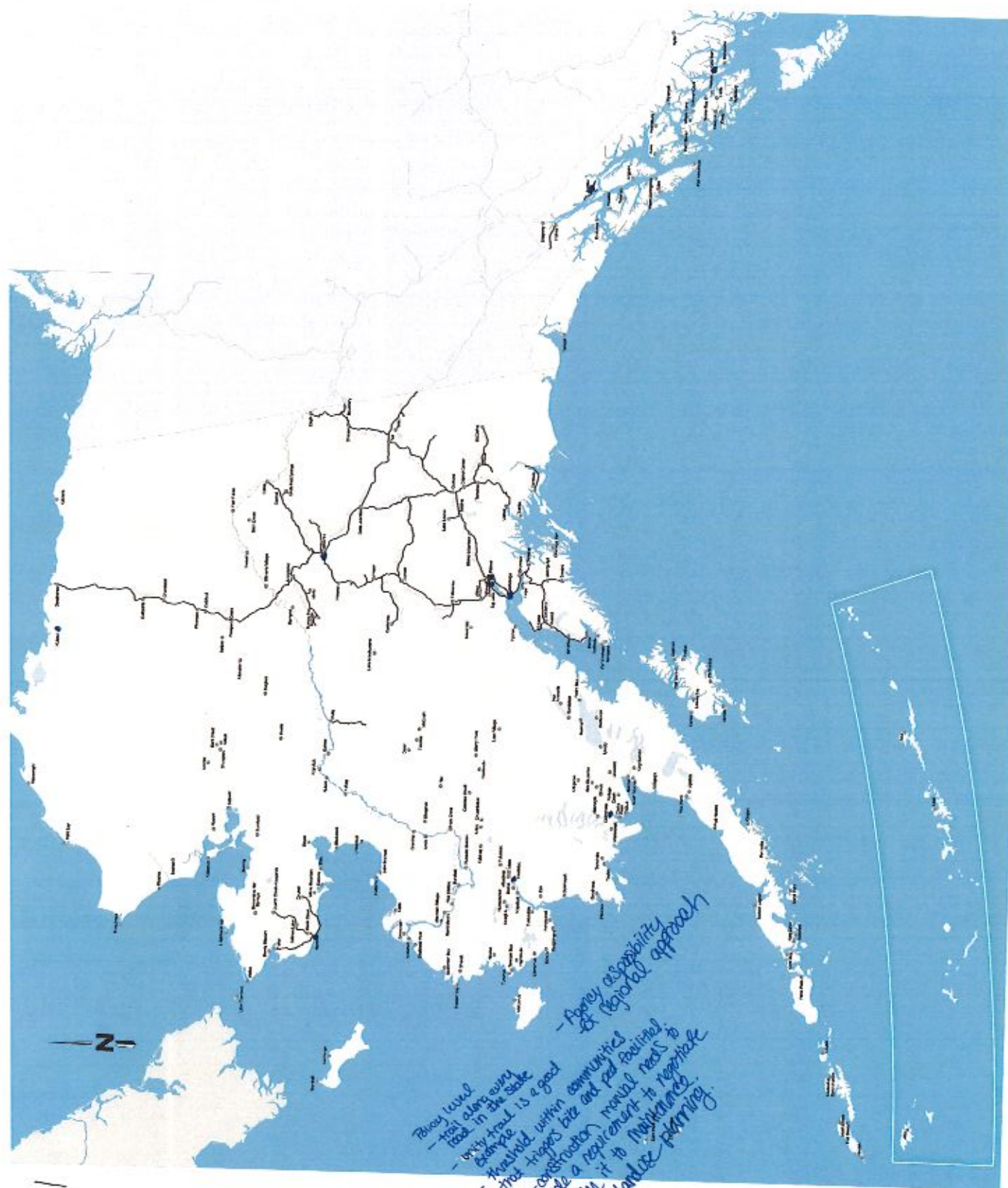


Geographical Location of Britain
Britain is situated in the North Atlantic Ocean, between the North Sea to the east and the Atlantic Ocean to the west. It is separated from the European continent by the English Channel. The British Isles are composed of Great Britain, Ireland, and numerous smaller islands. The climate is temperate, with mild winters and cool summers. The terrain is diverse, with high mountains in the west and low-lying areas in the east.

Political Structure
The United Kingdom is a constitutional monarchy, with the monarch as the head of state. The government is a parliamentary democracy, with the House of Commons as the lower house and the House of Lords as the upper house. The devolution of powers has created three self-governing regions: Scotland, Wales, and Northern Ireland. Each region has its own parliament or assembly. The Channel Islands and the Isle of Man are self-governing but remain part of the United Kingdom.

Demographic Statistics
The population of the United Kingdom is approximately 65 million. The majority of the population is white, with significant minorities of black, Asian, and Chinese descent. The population is concentrated in the southeast of England, particularly around London. The birth rate is slightly above the replacement level, and life expectancy is high, around 80 years.

mar Facilities/ Policy



- Policy level
- try along every road in the state
- example
- threshold within communities
- threshold size and road network
- Re-construct road network to include a requirement to regenerate
- LOS the it to neighbourhoods
- fit into landscape planning
- Agency responsibility & regional approach



COMMENT SHEET – PUBLIC MEETING

Soldotna, AK

Wednesday, November 2, 2016

The State of Alaska Department of Transportation & Public Facilities (DOT&PF), in partnership with DOWL and Alta Planning + Design, are working to create a plan to improve bicycle and pedestrian infrastructure across the state.

The goal of the project is to improve safety, increase accessibility, and promote healthy lifestyles in our communities.

The project team will work with communities across the state through 2018 to hear concerns and better understand community needs in order to develop achievable solutions that will increase access to bicycle and pedestrian facilities and improve safety across Alaska.

We look forward to working with you on this project, please forward this information on to any parties who might be interested in bicycle or pedestrian safety, mobility, and accessibility in your community!

For further information or to sign up for our newsletter, visit our website at: www.akbikeped.com

Please provide your comments on:

- What you would like to see in your community
- How bicycle/pedestrian improvements would affect you

Wonderful presentation. Things explained
very clearly. Thank you

Frances Kelsch

Senior citizens



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EXTEND BIKE TRAILS FROM SOTHI SOLDOTNA TO
STERLING & KENAI TO CAPTAIN COOK PARK.
FEDERAL MONIES - BIKE TRAILS.

GREAT TO BE ABLE TO BIKE FROM ONE
END TO THE NEXT.

Also look forward to Seward Highway
trails going extended to Cooper Landing
& Sterling.

P.S. who is "giving" us the monies.
WALKER SAID WE WERE BACK.



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Please provide your comments on:

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- How bicycle/pedestrian improvements would affect you

and what can we do as Grandparents, w/ Grand Kids
Kids bicycle's? on our Road ways? Grandparents
are always willing to Drive down with on the
* side off the (Road way. with them) Please
recomend, something for this Problem? Please, Please
Recomend ~~the~~ something for this problem, xxx??
~~Sherry~~ Sherry ~~the~~, Gramma Sherry ~~the~~ I
Help! Help! w/this Problem ???



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Please provide your comments on:

- What you would like to see in your community
- How bicycle/pedestrian improvements would affect you

100% paved roads, sidewalks everywhere in city limits.
Water + sewer on every city lot.

Love the bicycle paths already in.

(Need bike paths on secondary roads ie I took a
handicapped people linking. We only had bike paths near
major roads Kenai area)



COMMENT SHEET – PUBLIC MEETING

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Wednesday, November 2, 2016

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Please provide your comments on:

- What you would like to see in your community
- How bicycle/pedestrian improvements would affect you

- Safety along the highways - kids walk to town along the road.
- Concern about funding plan -
- [enforcement] of speed limit - Walker and lost his driver's license. enforcers need a reputation for being more aggressive. Barabaras. increase fines.
- Idiot ride trails which can provide rides and create competition.
- Parental education for kids that ride to bikes - kids need to be supervised
- Bike & walking path - more protection.
- mobility use of trails and parkways - intersection and sidewalk access is awkward for mobility with

Website: www.akbikeped.com

To submit comments: Email akbikeped@dowl.com



COMMENT SHEET – PUBLIC MEETING

Soldotna, AK

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Please provide your comments on:

- What you would like to see in your community
- How bicycle/pedestrian improvements would affect you

(parallel, non motorized)

I'd like to see a local bike network and a regional bike network. I would like including bike infrastructure into all transportation improvements. I am open to these bike networks also serving to build ATV and snowmachine networks. I want bike trails to be useable and safe for children.

Incentives for beautification - ie trees along the bike path.

Path maintenance - gravel along the bike path is a major issue year-round.

Safety for cyclists - cyclist awareness.

- campaign for awareness
- widened shoulders

Improve connections.

Motorized & Non-Motorized don't mix - for-motorized are too vulnerable

- Cultural Shift.

City centers are sprawling - Make it very difficult to walk & bike

Disavowed 'Smart growth' - Need to improve planning & zoning

⇒ State needs a comprehensive overall approach to zoning.

Future revenue - look at mechanisms to gather revenue to fund bike path.

- Ecotourism.

- Capitalize on AK's unique characteristics.

Bikeable Communities for a Statewide Healthy Communities Plan

- local produce.

- active transportation.

- proactive healthcare vs reactive healthcare.

- Reward & incentives to be part of a "well community"

Bridge gap between people who want to do something (ie Saltash Ski Club) & the government who are facing an uncertain future in terms of funding

- incentivize private contributions.

- look at things that work, & then duplicate them.

Subject: Statewide Bicycle and Pedestrian Master Plan – Public Meeting**Date: April 17, 2017****Time: 12:00 PM to 2:00 PM****Location: 2022 Ahkovak Street, Bethel, AK**

Meeting Notes

The Alaska Department of Transportation and Public Facilities (DOT&PF) and DOWL conducted a public meeting for the Alaska Statewide Bicycle and Pedestrian Master Plan on Monday, April 17, 2017 at 2022 Ahkovak Street, Utqiagvik, Alaska. The purpose of the meeting was to discuss the project purpose and need, present the project development process and schedule, draft vision goals and objectives, and gather information the public. 5 people attended the meeting in person.

DOWL advertised the meeting in the Arctic Sounder classified section, constant contact email to community members, local governments, community councils, local and state politicians, the DOT&PF Facebook website, and through a Public Service Announcement (PSA) on local radio stations.

The meeting started with a PowerPoint presentation with an overview of the project goals, history, and project area. After the presentation the public engaged in a dialogue with project team members. The public was encouraged to provide feedback to project team members verbally, on written comment forms, or via email at the project website.

The following is a summary of the public questions/comments and project team responses:

Vision

- Consider dust control and other health hazards.
- Visibility of pedestrians and bicyclists is a key issue, owing to long hours of darkness in the winter.
- Education should be a key consideration, starting at elementary school age.

Goal Area 1: Increase Active Transportation Funding in Alaska

- Funding for provision and maintenance of transportation facilities is a key issue.
- The City shares services to leverage skills and connections and reduce costs.

Goal Area 2: Safety

- Snow machines and ATVs frequently conflict with pedestrians.

Goal Area 3: Economic Development

- If more people will walk, then they are more inclined to visit local restaurants/shops and facilities, which can assist to boost the economy.
- The City has a local walking map to encourage visitors to walk.

Goal Area 4: Maintenance/System Preservation

- Heavy equipment is used to “clean” streets by bringing snow into the middle of the road and then hauling it out of town. This also ensures that the road is kept wide for pedestrians, and assists with drainage.

Goal Area 5: Improve Design Standards

- Improved signage is needed to mark where non-motorized transportation facilities are located.

Goal Area 6: Health

- Dust control is a key concern.
- Consider promoting active transportation to the community through initiatives such as “Walking Wednesdays”.

Goal Area 7: Education

- Look at updates to the DMV driver manual to encourage drivers to be respectful to non-motorized road users, drive defensively.
- Educate people on how to use/cross the road safely, particularly in rural communities.
- Teach young people how to use GPS for wayfinding.

Goal Area 8: Connectivity

- Trail marking is important as people often walk between villages.
- LED lighting is a significant concern, as it has reduced the halo effect of villages (and therefore their value for wayfinding).

Subject: Statewide Bicycle and Pedestrian Master Plan – Public Meeting**Date: April 18, 2017****Time: 5:00 PM to 7:00 PM****Location: Raven Landing Center, 1222 Cowles Street, Fairbanks, AK****Meeting Notes**

The Alaska Department of Transportation and Public Facilities (DOT&PF) and DOWL conducted a public meeting for the Alaska Statewide Bicycle and Pedestrian Master Plan on Tuesday, April 18, 2017 at the Raven Landing Center, 1222 Cowles Street, Fairbanks, Utqiagvik, Alaska. The purpose of the meeting was to discuss the project purpose and need, present the project development process and schedule, draft vision goals and objectives, and gather information the public. 26 people attended the meeting in person.

DOWL advertised the meeting in the Fairbanks Daily News-Miner classified section, constant contact email to community members, local governments, community councils, local and state politicians, the DOT&PF Facebook website, and through a Public Service Announcement (PSA) on local radio stations.

The meeting started with a PowerPoint presentation with an overview of the project goals, history, and project area. After the presentation the public engaged in a dialogue with project team members. The public was encouraged to provide feedback to project team members verbally, on written comment forms, or via email at the project website.

The following is a summary of the public questions/comments and project team responses:

Vision

- Non-motorized transportation in winter vs summer – consider seasonal component and whether this is a main form of transportation or whether they are minority users.
- Safety – ability for people to get around in a safe manner.
- Line between motorized and non-motorized is becoming blurred – non-motorized users would prefer not to share with ATVs and snow machines (more of an issue in rural areas).
- Consider using term ‘active transportation’ rather than just bicycle and pedestrian.
- Ensure that the plan provides for vulnerable users.
- Describe what we want the state to look like in the future, including providing more options for people to get to destinations, enhancing connections, prioritizing bicycle and pedestrian facilities.

Goal Area 1: Increase Active Transportation Funding in Alaska

- Could bicycle and pedestrian facilities be tagged on to existing street rehabilitation projects? This should be a key consideration.
- Organizations should work together – understand what projects are coming up.
- Find out data about usage – once this is better known then there is more information to support development of facilities.
- Many opportunities already – most projects in STIP do not specifically call out bicycle and pedestrian projects as part of listed rehabilitation projects – scope needs to be broadened to build more facilities.

Goal Area 2: Safety

- Clearing bike paths/sidewalks in winter time creates safety issues and inhibits use of facilities.
- It's important that drivers know there are other types of users in the road. Currently pedestrians and cyclists are treated as though they are in the way. Need to reinforce that their use is legitimate.
- Alaska is one of the only states that still has a state law that requires that bicyclists must yield to motor vehicles.
- Connectivity – interface between bicycle paths/pedestrian paths and then have to merge into a non-existent shoulder (or broken/gravel/mudpits). Creates inhospitable environment for bicycle/pedestrian users.
- Consider design standards (signal changes, right hand turns) to create a safer environment for bicycles and pedestrians.
- Discuss with legislators about the laws, how they affect the safety of pedestrians and bicyclists. Advocate for changes to the laws to improve safety for pedestrians and bicyclists.

Goal Area 3: Economic Development

- A lot of people will decide where they are going to shop based on where they will be able to get to safely, park and lock up their bike. The plan should recognize that providing active transportation facilities could enhance the economic wellbeing of businesses.

Goal Area 4: Maintenance/System Preservation

- Design standards can enhance maintenance of facilities.
- Consider partnerships with private businesses to enhance maintenance and upkeep. Local communities should be willing to work together to maintain facilities.
- Have great trails, but need some kind of maintenance plan/budget otherwise the trails will become useless. Maintenance needs to be part of the long term plan for a project.
- Funding is a big issue right now, a lot of the maintenance funding is through State of Alaska budget, whereas design, etc., is through FHWA. Need to consider ways to maintain facilities that do not necessarily rely on state funds.

Goal Area 5: Improve Design Standards

- Take existing guidance and tailor it to Alaska specifically. Consider adding design standards to the DOT&PF Pre-Construction Manual. Design standard should have at least a shoulder that a cyclist should go on.
- When construction takes place on bicycle and pedestrian facilities, provide re-routing to keep facilities open.
- Consider road diets – shrinking from 4 lanes to 3 and using additional space to provide bicycle and pedestrian facilities. Generally most of the cost is associated with ROW acquisition, so this saves that cost. Also reduces the speed associated with the provision of facilities.
- Problem with providing a bike lane is unless a barrier is put up then there is very little respect for the bicycle facility.
- Rural communities – no control at intersections and a lot of people don't drive. As life in village changes and motorized transportation is becoming more dominant, communities are working to address these issues. Need to consider design so there is roadway for vehicles, space for ATVs, dirt bikes, etc, and other non-motorized transportation.
- ATVs – solutions simple, just isn't going to be popular – need to make them get a license for ATV vehicles. Get them onto the roadways as that is where they belong.
- Bicyclists need to be aware of others as well – recreational bicyclists are not paying attention.

Goal Area 6: Health

- Dust control/asthma a big issue in rural communities.
- Majority of attendees thought health was a valuable goal area, but noted the difficulties in measuring the health impacts of facilities.
- Consider partnerships to deliver health outcomes.
- Promote commuting year-round by bike to reduce air emissions.

Goal Area 7: Education

- Alaska seems to be behind other places in terms of attitudes toward active transportation. Need to raise awareness of cycling and walking, and that non-motorized transportation users also use cars as well.
- Consider school programs to educate on bicycle maintenance, safety on the road.
- Work with companies in town to spread the word on active transportation and its benefits. Consider working with Chambers of Commerce to reach businesses and get their support.

Goal Area 8: Connectivity

- Prioritize projects that enhance connectivity.
- Consider active transportation design standards to enhance connections.
- Consider connections to transit, and promote that most have bike racks available.

- Support the development of a community oriented Bicycle Plan to share connection secrets, safe ways to get around using social media/app.



COMMENT SHEET – PUBLIC MEETING

Fairbanks, AK

Tuesday, April 18, 2017

The State of Alaska Department of Transportation & Public Facilities (DOT&PF), in partnership with DOWL and Alta Planning + Design, are working to create a Master Plan to improve bicycle and pedestrian infrastructure across the state.

The goal of the Master Plan project is to improve safety, increase accessibility, and promote healthy lifestyles in Alaska's communities.

The project team will work with communities across the state through 2018 to hear concerns and better understand community needs in order to develop achievable solutions that will increase access to bicycle and pedestrian facilities and improve safety across Alaska.

We look forward to working with you on this project, please forward this information on to any parties who might be interested in bicycle or pedestrian safety, mobility, and accessibility in your community!

For further information or to sign up for our newsletter, visit our website at: www.akbikeped.com.

Please provide your comments on:

- What you would like to see in your community?
- How bicycle/pedestrian improvements would affect you?

I have ~30 yrs. bike commuting in Fairbanks.

The most important issues to me are route maintenance (esp. in winter) and safety/avoiding conflict with motorized traffic.

Improvements in awareness & education of vehicle laws relative to bicycles and any maintenance improvements would be welcome.

Local efforts in route mapping would also help.

Subject: Statewide Bicycle and Pedestrian Master Plan – Public Meeting**Date: April 19, 2017****Time: 5:00 PM to 7:00 PM****Location: Nome Mini-Convention Center, 102 River Street, Nome, AK**

Meeting Notes

The Alaska Department of Transportation and Public Facilities (DOT&PF) and DOWL conducted a public meeting for the Alaska Statewide Bicycle and Pedestrian Master Plan on Wednesday, April 19, 2017 at the Nome Mini-Convention Center, 102 River Street, Nome, Alaska. The purpose of the meeting was to discuss the project purpose and need, present the project development process and schedule, draft vision goals and objectives, and gather information the public. 6 people attended the meeting in person.

DOWL advertised the meeting in the Nome Nugget classified section, constant contact email to community members, local governments, community councils, local and state politicians, the DOT&PF Facebook website, and through a Public Service Announcement (PSA) on local radio stations.

The meeting started with a PowerPoint presentation with an overview of the project goals, history, and project area. After the presentation the public engaged in a dialogue with project team members. The public was encouraged to provide feedback to project team members verbally, on written comment forms, or via email at the project website.

The following is a summary of the public questions/comments and project team responses:

Vision

- Focus should be on safety and health.
- Improved access and connections is important – Nome is a hub town, but it is growing with satellite communities and it needs to be safe for children to walk in any direction.

Goal Area 1: Increase Active Transportation Funding in Alaska

- Most funding appears to be associated with Airports in rural Alaska.
- There was encouragement to consider TAP funding to assist with paying for circular transportation routes.
- Add an objective about internal coordination within DOT&PF and between other transportation organizations.

Goal Area 2: Safety

- Creating a designated place for pedestrians and bicycles should be an ultimate goal, either next to roads or separated from roads.
- Consider animals (musk ox) and their impact on active transportation facilities.
- Consider nature of facilities (maintenance, construction standards) as they can impact on safety.

Goal Area 3: Economic Development

- Recreation, health and tourism are key elements for active transportation.
- Cruise ships and their tourists have a significant impact on small towns like Nome – need to ensure that active transportation facilities are provided for them.
- The Iditarod has a significant impact on Nome roads and brings a lot of visitors to the town. Need to provide facilities for tourists walking and bicycling as there are limited cars available for hire.

Goal Area 4: Maintenance/System Preservation

- Consider partnerships/volunteering, such as prison, schools, halfway house corporation as a form of community service and doing something positive for the community.
- Tribal organization could be potential partners to support maintenance – could have inter-agency agreements in place.

Goal Area 5: Improve Design Standards

- Need to draw from the best of standards available and adapt them to be Alaska-specific and right for local communities.
- Recognize the snow machines and ATVs are major modes of transportation.

Goal Area 6: Health

- Dust is a significant issue in rural communities – respiratory disease is a major concern.
- Giving people a place to be active encourages physical activity.
- Consider active transportation events such as walk/bike to school/work day, Health Fair, activities being undertaken in association with Hospital to encourage physical activity.

Goal Area 8: Connectivity

- Connections to schools a significant consideration, as well as winter trail markings.
- Connections to transit should also be a significant consideration.

Subject: Statewide Bicycle and Pedestrian Master Plan – Public Meeting**Date: April 24, 2017****Time: 5:00 PM to 7:00 PM****Location: Yupiit Piciryarait Cultural Center, Bethel, AK****Meeting Notes**

The Alaska Department of Transportation and Public Facilities (DOT&PF) and DOWL conducted a public meeting for the Alaska Statewide Bicycle and Pedestrian Master Plan on Tuesday, April 24, 2017 at the Yupiit Piciryarait Cultural Center in Bethel, Alaska. The purpose of the meeting was to discuss the project purpose and need, present the project development process and schedule, draft vision goals and objectives, and gather information the public. 31 people attended the meeting in person.

DOWL advertised the meeting in the KUAC / The Delta Discover classified section, constant contact email to community members, local governments, community councils, local and state politicians, the DOT&PF Facebook website, and through a Public Service Announcement (PSA) on local radio stations.

The meeting started with a PowerPoint presentation with an overview of the project goals, history, and project area. After the presentation the public engaged in a dialogue with project team members. The public was encouraged to provide feedback to project team members verbally, on written comment forms, or via email at the project website.

The following is a summary of the public questions/comments and project team responses:

Vision

- Include key works such as dust free, safe, scenic, clean.

Goal Area 1: Increase Active Transportation Funding in Alaska

- Consider increasing sales taxes
- Work with leaders in transportation development – DOT, City of Bethel, YKHC – coordinate and identify champions/key points of contact for partnerships
- Work with the legislature to amend evaluation criteria so it is more friendly to rural Alaska

Goal Area 2: Safety

- Consider educating on safe behaviors (i.e. crossing at signals)
- Develop a single database to collect safety data

- Focus on the roads being drivable as cars just go straight into the bike paths even if riders are there to avoid the dips in the road. Maintaining the roads will avoid this.
- Consider creating curbs on major highways to separate bicycle and pedestrian facilities, especially as frost heaves occur and dips form.

Goal Area 3: Economic Development

- Provide bike racks at businesses to encourage active transportation users.
- Safe transportation on the river during winter – being able to travel back and forth to the villages is a significant economic development opportunity (Folks walk on the river in the winter, and fat tire bike, ski)
- Consider bike share/bike lock share schemes.
- Create a local regional construction crew so they are working on local projects, and keeping the income for local families.

Goal Area 4: Maintenance/System Preservation

- Improve dust control on the DOT&PF highway.
- Rather than trying to build a whole new highway at once, consider smoothing small sections and repaving so the whole highway will be improved over time.
- Educate the community so they can minimize damage, how everyone can pitch in to fix the small things before they become big things. Also understanding the cost of maintenance facilities, watering trucks.

Goal Area 5: Improve Design Standards

- Chief Eddie Hoffman Highway is in poor condition with frost heaves. Consider research projects through TRB to better understand what is working and what isn't so there is a better idea of what standards should be applied to rural Alaska. (DOT&PF is connected here, also connect through asset management).
- Effect of studded tires on roads should be considered as well.
- Consider accident prevention mechanisms such as guardrail in high accident locations.

Goal Area 6: Health

- Dust control is a key issue in rural Alaska. Connect with the hospital to understand the health impact of dust. YKHC should be able to help support monitoring the impact of dust. There tend to be more admissions on windy days in Bethel.
- Teach kids how to ride bikes – once a year, so as to reduce injuries.

Goal Area 7: Education

- Consider working with physical education teachers to teach kids how to ride bikes over the summer months.
- Re-establish activities such as bike rodeos with bike helmets.

- Snow machine and ATV driving classes – to prevent people from driving on the wrong side of the road, basic hand signals, etc. Consider running it through schools.

Goal Area 8: Connectivity

- Have a goal to extend the bicycle trails all throughout the state highway system.
- Use Facebook to bring the communities together to share active transportation opportunities. Would be nice to know what people are doing throughout the State, as well as locally.
- Good to get a drawing of where road should be located if the region was to become connected. This would enable us to see the future, and how the roads could result in cost savings through provision of infrastructure (such as bypass mail – wouldn't be needed if there was a road network). Also consider community clustering for the provision of services. Look ten years and beyond, sharing of electrical lines, etc.



COMMENT SHEET – PUBLIC MEETING

Bethel, AK

Monday, April 24, 2017

The State of Alaska Department of Transportation & Public Facilities (DOT&PF), in partnership with DOWL and Alta Planning + Design, are working to create a Master Plan to improve bicycle and pedestrian infrastructure across the state.

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We look forward to working with you on this project, please forward this information on to any parties who might be interested in bicycle or pedestrian safety, mobility, and accessibility in your community!

For further information or to sign up for our newsletter, visit our website at: www.akbikeped.com.

Please provide your comments on:

- What you would like to see in your community?
- How bicycle/pedestrian improvements would affect you?

Safe Ped + bike path on Akakeek street + ptarmigan street.

There are very limited safe paths for peds + bikers in the community. There are dust concerns which discourage walking/biking. The paths that are here do not provide safe paths to common destinations ie: grocery store, hospital, schools.

Many of the main roads in the community are unpaved. Dust control/mitigation is a priority to encourage utilization of paths.

Website: www.akbikeped.com

To submit comments: Email akbikeped@dowl.com



COMMENT SHEET – PUBLIC MEETING

Bethel, AK

Monday, April 24, 2017

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Please provide your comments on:

- What you would like to see in your community?
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extend bike path (I love biking but often get cluttered)
more street lights
water, the highways

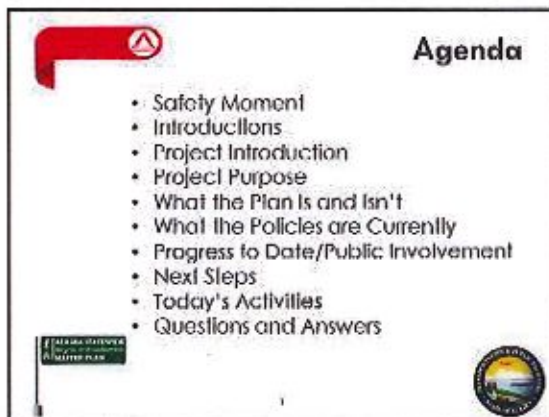
Website: www.akbikeped.com

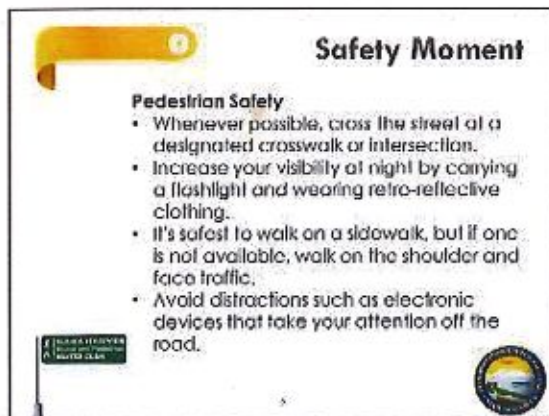
To submit comments: Email akbikeped@dowl.com

Ashton T Jensen

4/13/2017







ideas way back

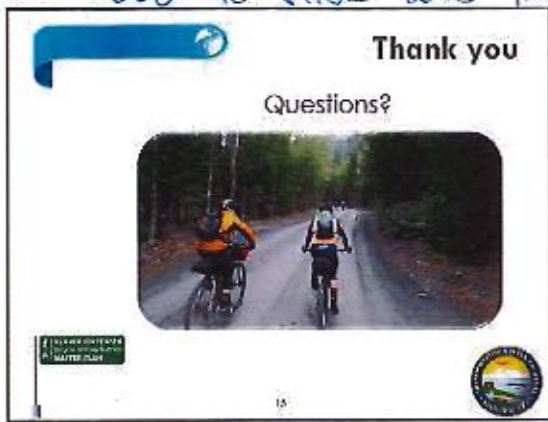
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2. YKRG centers having a Road

Ashton T Jones

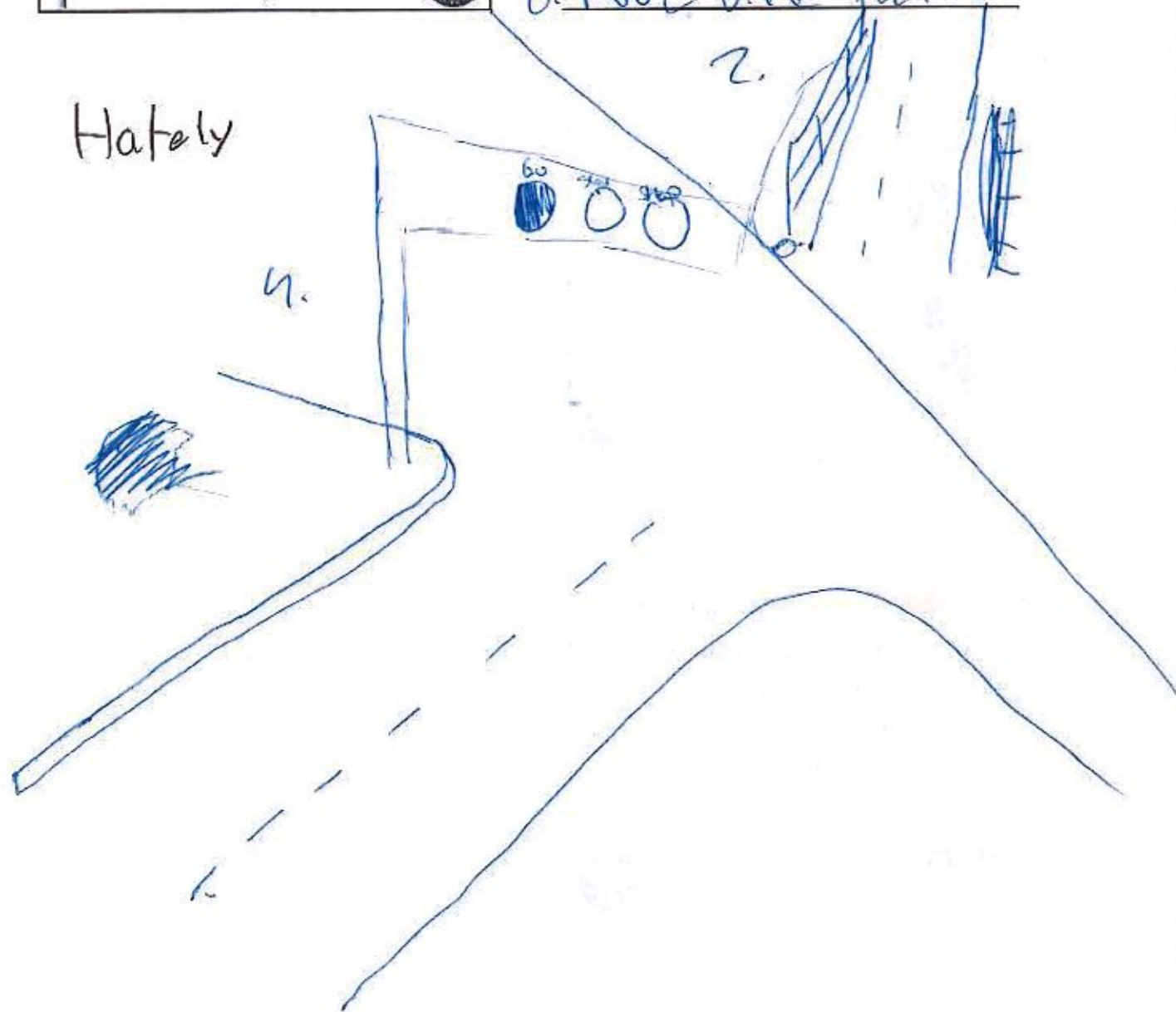
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going to Alex Hatly a dead end. And moving a trail
for ~~the~~ Vernal Lake
forevermore.

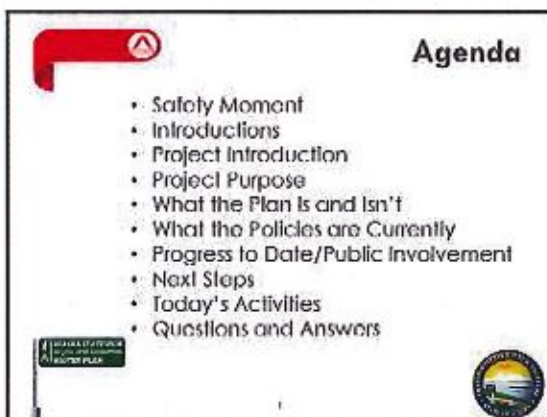


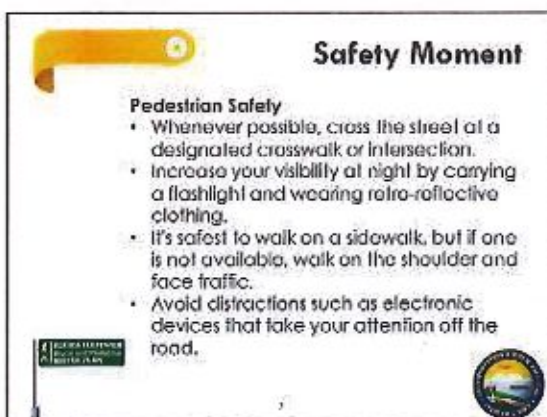
1. Mose Current Procs
2. Business head ditches for PIPs
3. stop right in are location
4. side walk a little higher than road.
5. Pumpstoss set up more.
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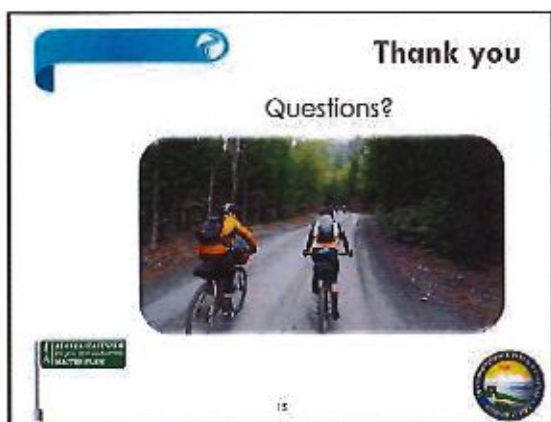
Hafely











1 More short cuts
to walk through.
make more roads
to places so you
can drive more
~~places~~ places.



COMMENT SHEET – PUBLIC MEETING

Juneau, AK

Tuesday, March 27, 2018

Please provide your comments on:

- Vision, Goals and Objectives
- What would you like to see included in the Master Plan?

Connectivity is key in Juneau: esp ferry terminal to downtown
 focus on bottleneck points: areas of difficulty due to heavy traffic or
 poor facilities: in Juneau - Lemon Creek - and path connecting
 Hospital Drive with S Glacier Highway
 for safety purposes, could some education efforts (PSAs?) about
 riding on right, walking on left. Sharing the ^{road} ~~lane~~
 is a seldom understood concept

To receive project information, provide your name and an e-mail or postal address:

Name: Dave Ringle

Address: _____

E-mail: dvringle@gmail.com

Telephone: 907-321-7026

Website: www.akbikeped.com

To submit comments: E-mail akbikeped@dowl.com



COMMENT SHEET - PUBLIC MEETING

Juneau, AK

Tuesday, March 27, 2018

Please provide your comments on:

- Vision, Goals and Objectives
- What would you like to see included in the Master Plan?

Alaska Marine Highway is our road between towns in SE Alaska, as well as a route into and out of SE Alaska -- to the lower 48 or the northern road system. Much could be done to make it more bike friendly. Bike fees are high. There is often no safe & secure place for bikes on the ferry deck, staff is not helpful in accommodating bikes. Tourists travelling by bicycle need better signage into town. It is sad to say that it costs more to put a bike on the ferry to Bellingham than it does to fly it.

mud & water! often an impediment to walking along roads where pedestrians are sprayed from head to toe

would be great to encourage & help businesses to install bike racks.

To receive project information, provide your name and an e-mail or postal address:

Name: Stephanie Hoag

Address: _____

E-mail: hoags@gci.net

Telephone: _____

Website: www.akbikeped.com

To submit comments: E-mail akbikeped@dowl.com



COMMENT SHEET - PUBLIC MEETING

Juneau, AK

Tuesday, March 27, 2018

Please provide your comments on:

- Vision, Goals and Objectives
- What would you like to see included in the Master Plan?

To include : a map for each community showing existing bicycle routes

Clarify which roads are impacted by the plan
Does the plan apply to city / borough roads / trails as well as state maintained roads?

To receive project information, provide your name and an e-mail or postal address:

Name: _____

Address: _____

E-mail: _____

Telephone: _____

Website: www.akbikeped.com

To submit comments: E-mail akbikeped@dowl.com

··· **Appendix B**

Health Analysis Methodology
and Results





The Joseph Vance Building
1402 Third Avenue, Suite 206
Seattle, WA 98101
(206) 735-7466

APPENDIX B

To: Alaska Department of Transportation & Public Facilities

From: Alta Planning + Design

Date: July 21, 2017

Re: Alaska Statewide Bicycle and Pedestrian Masterplan | Regional Health Profiles and Health Logic Model (Task 5D)

Regional Health Analysis

Introduction

This analysis identifies statewide pedestrian and bicycle crash statistics, as well as chronic health disparities across ten different geographic regions in the state. The findings from the analysis will be used to make the health case for statewide recommendations and establishing priorities for where to make active transportation infrastructure and programmatic investments. The analysis includes a background of the factors that shape human and community health; the benchmarking methodology used for the regional health analysis; findings from the analysis; and an explanation of how active transportation can have a positive impact on chronic disease indicators.

Why health is relevant to the Alaska State Bike and Pedestrian Plan

As part of the Statewide Bicycle and Pedestrian Plan, the Alaska Department of Transportation and Public Facilities (DOT&PF) is taking important and deliberate steps to plan for a healthier Alaska. Through the explicit recognition that active transportation has a considerable impact on individual and community health and wellness, DOT&PF is working to reduce rates of chronic disease and preventable injuries through the development and promotion of a safe and connected statewide active transportation network.

In the United States, chronic disease is the leading cause of death and disability, associated with approximately 70% of deaths each year.ⁱ In Alaska, six out of ten of the leading causes of death are due to chronic conditions, of which Alaska Native people experience disproportionately high rates.ⁱⁱ It is well understood that increasing physical activity levels is one of the most effective ways to reduce the risk of chronic diseases and related risk factors. Specifically, physical activity is associated with reductions in the risk of overweight/obesity, high blood pressure, abnormal cholesterol, diabetes, coronary heart disease, some cancers, depression, and all-cause mortality, among others.^{iii, iv, v, vi, vii, viii, ix}

In order to best realize the benefits that physical activity can have for all Alaskans, local, regional and statewide active transportation infrastructure must be designed in consideration of the unique opportunities and constraints of the geography, weather, and culture of the state, to meet a high level of safety and comfort to encourage walking and biking.

What Shapes Health

Determinants of health are factors that contribute to a person's current state of health. These determinants include clinical care, biology and genetics, social and economic factors, health behaviors, and the physical environment.^x Scientists do not know the precise contribution of each determinant, but health behaviors, the physical environment, and social and economic factors account for approximately 60-75% of the health factors that contribute to shaping health outcomes, which are all factors that can be impacted by physical activity.^{xi}

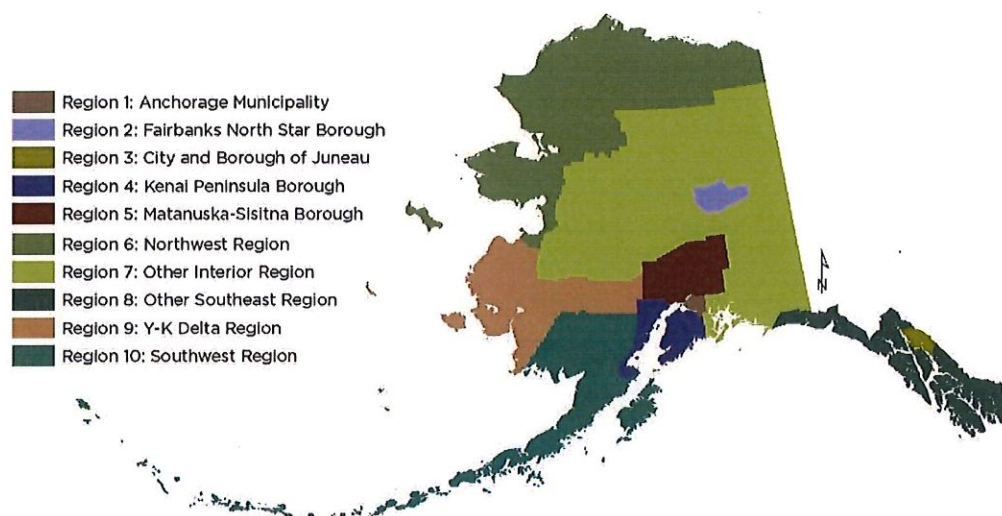
Physical activity is an important way to reduce the risk of overweight/obesity, high blood pressure, diabetes, stroke, heart disease, certain types of cancers, depression, and anxiety.^{xii, xiii, xiv} Communities and local areas designed to promote safe and connected active transportation and recreational opportunities, are positively associated with greater levels of resident physical activity and consequently, with improved health.^{xv, xvi}

The following analysis indicates there are high rates of poor health for different health indicators throughout Alaska. Most concerning is that there are higher rates of obesity and overweight, coronary heart disease, breast cancer, depression, and unintentional injury within various regions in Alaska compared with average statewide and national rates.

Benchmarking Methodology

The benchmarking process used in this analysis compared health indicators for ten behavioral health regions in Alaska with those from the state and nation. These "behavioral health regions" were defined by the Alaska Department of Health and Human Services as areas primed for behavioral health systems assessment, as each contain at least a population of 20,000 people in compliance with HIPPA Privacy Rules. The ten behavioral health regions are shown in Figure 1.^{xvii}

Figure 1. Alaska Behavioral Health Regions



This analysis mapped the geographic distribution of specific chronic diseases within the state. As a starting point, a cursory analysis was performed of the health conditions within each of the ten behavioral health regions and found evidence of several health concerns. Five health indicators in particular (**obesity prevalence, overweight prevalence, physical activity, poverty, unintentional injury**) were selected as a focus for this analysis due to their inclusion in the Healthy Alaskans 2020 (HA2020) initiative target goals, their rates throughout the state, and the potential impact that increased physical activity and enhanced bicycle and pedestrian facilities can have on improving these specific health outcomes.

The analysis was conducted using 2015 data from the Alaska Department of Health and Human Services, U.S. Department of Transportation, National Cancer Institute, and U.S. Census Bureau. Unintentional injury data was collected from 2002 through 2011 from the Alaska Native Tribal Health Consortium. Using this data, the state average prevalence rate was used for each health indicator and graphs were generated that visually illustrate the distribution of the average, above average, and below average prevalence rates for each health indicator in each region. The analysis also included a comparative analysis for each indicator at the state and national level.

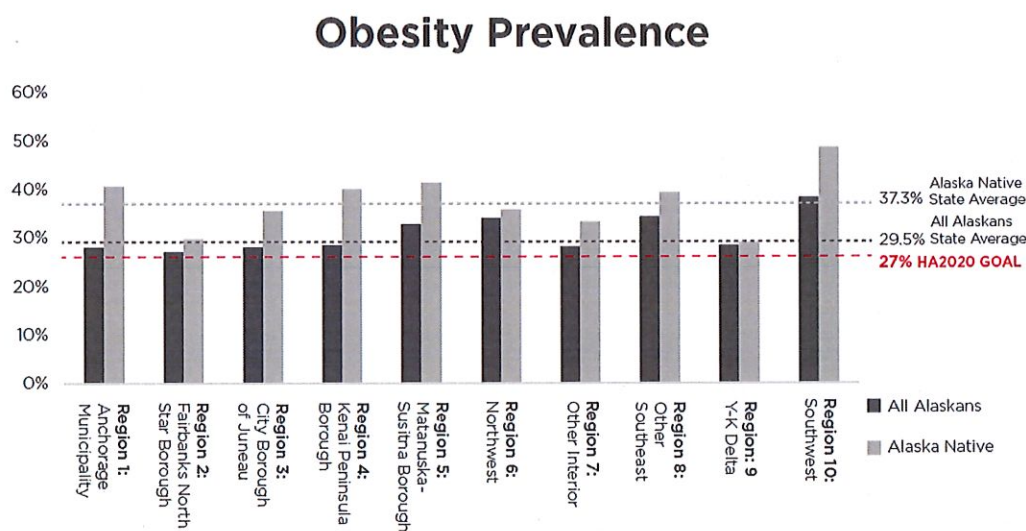
While this analysis provides a snapshot of Alaska's health status, it is recommended that additional social demographic data, collision data, and travel behavior be evaluated to provide a more complete picture of the overall state of health throughout the state. Additionally, supplemental research and geographic mapping of social demographic data, such as age, race, income, and education, is recommended to further understand the geographic correlations between social demographics and health outcome measures.

Health Indicator Analysis – Healthy Alaskan 2020 Indicators

In 2012, the Alaska Department of Health and Social Services and the Alaska Native Tribal Health Consortium partnered to develop Healthy Alaskans 2020 (HA2020), a statewide collaborative initiative aimed at improving the health of all Alaskans. As part of this statewide initiative, 25 health indicators were identified and targets were applied to each indicator to reach by 2020.^{xviii} The following health indicators analyzed are in support of the Healthy Alaskans 2020 goals, and were selected due to the considerable impact that walking and biking has on the reduction of such chronic conditions.

Obesity Prevalence

Obesity is a nationwide epidemic affecting over one third of the U.S. adult population and approximately one fifth of U.S. children (ages 2-19).^{xix, xx} Obesity impacts individuals physically, emotionally and socially, and is associated with a number of serious chronic illnesses including high blood pressure, high cholesterol, stroke, diabetes, asthma, heart disease, and certain types of cancer.^{xxi, xxii, xxiii} Of the ten leading causes of death in the United States, obesity is linked to seven of these conditions.^{xxiv}



All Alaskans

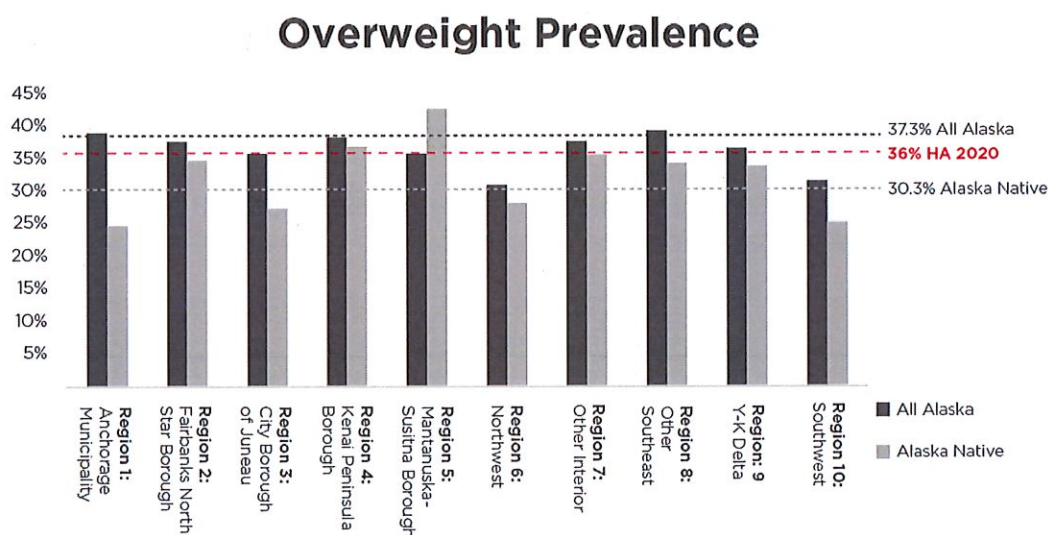
The HA2020 goal for the rate of obesity prevalence in adults, age 18 and over, in Alaska is 27 percent.^{xxv} As of 2015, every behavioral health region in Alaska, for all Alaskans, had an obesity rate higher than the HA2020 goal. The Southwest Region, at 38.3 percent, was the region with the highest obesity prevalence rate, followed by the Northwest Region (34 percent), Southeast Region (34.3 percent), and Matanuska Susitna Borough (32.8 percent). The Fairbanks North Star Borough reported the lowest rate of obesity in 2015, at 27.1 percent, followed by the Anchorage Municipality and the City and Borough of Juneau (each with rates at 28 percent). Although these rates are still above the HA2020 target, they are less than the state and national average rates of obesity of 29.5 percent and 27.5 percent respectively.^{xxvi}

Alaska Native

Within the Alaska Native population, there are five behavioral health regions with greater reported rates of obesity than the HA2020 goal: the Anchorage Municipality, Kenai Peninsula Borough, Matanuska-Susitna Borough, Southeast Region, and Southwest Region. Of these regions, the Southwest Region experiences the highest rate of obesity within the state at almost 50 percent of the population.^{xxvii}

Active transportation presents an important opportunity to begin to reduce the incidence of obesity in every region and improve overall health for all Alaskans. Active transportation allows Alaskans to incorporate physical activity into their daily routines and is associated with greater rates of walking and cycling, physical activity, and lower rates of obesity.^{xxviii} For example, evidence indicates that for every 0.62 mile walked per day, there is an associated five percent reduction in the likelihood of obesity.^{xxix}

Overweight prevalence



All Alaskans

The HA2020 goal for the rate of overweight prevalence in adults, age 18 and over, throughout the state is 36 percent by 2020.^{xxx} As of 2015, more than half of the boroughs and regions within the state of Alaska reported rates higher than 36 percent. Specifically, the Southeast Region experienced 39.1 percent overweight prevalence; the Anchorage Municipality, 38.8 percent; the Kenai Peninsula Borough, 38.1 percent; the Other Interior Region, 37.5 percent; the Fairbanks North Star Borough, 37.5 percent; and the Yukon-Delta Region, 36.4 percent. In comparison to the state and national averages for overweight prevalence, 37.3 percent and 35.8 percent, respectively, all of the regions previously mentioned exceeded these rates with the exception of the Yukon-Delta Region, which falls in between the state and national average. The portion of Alaska with the lowest rate of the population overweight was the Northwest Region at 30.8 percent. This indicates that, for the entire state, approximately one in three adults is overweight regardless of geographic location.^{xxxi}

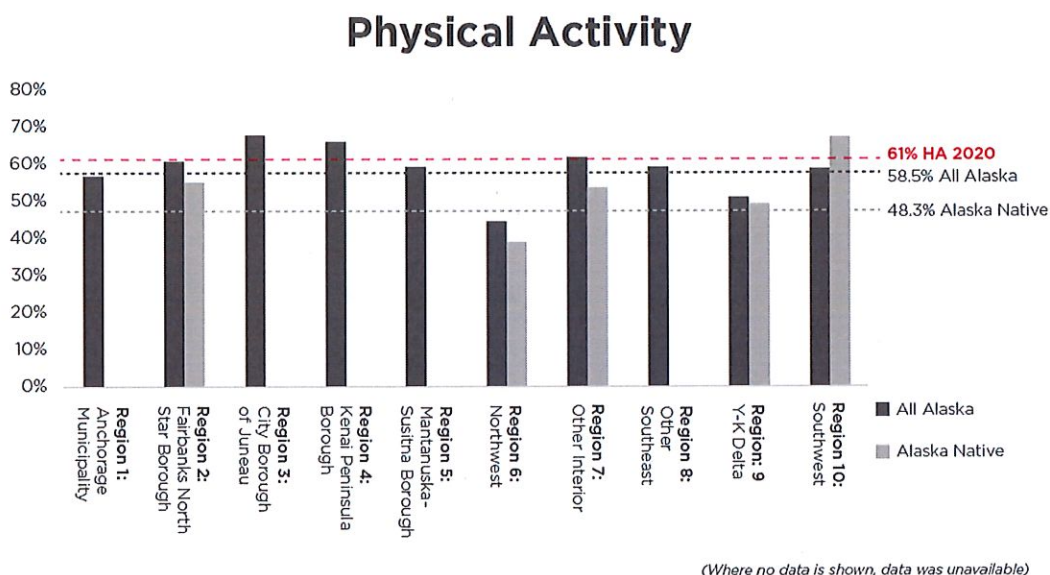
Alaska Native

Within the Alaskan Native population, only two of the ten behavioral health regions reported rates of overweight greater than the HA2020 goal in 2015. The Matanuska-Susitna Borough and the Kenai Peninsula Borough each had overweight prevalence rates of 42.5 percent and 36.7 percent, respectively. In contrast to obesity rates throughout the state, overweight prevalence in the Alaska Native population was better than the state and national averages in every region in 2015, with the exception of the two previously mentioned; a stark difference in comparison to the rates for all Alaskans.^{xxxii}

Over two thirds of all adults in Alaska, as well as Alaska Native residents, are both overweight and obese. This represents a significant portion of the state population that are at risk of developing high blood pressure, high cholesterol, stroke, diabetes, heart disease, certain types of cancer, among other chronic illnesses. Children who are overweight are also more likely to become obese as adults. Walkable and bikeable communities can mitigate these impacts by supporting safe options for daily physical activity and healthy behaviors that lead to reductions in the incidence of overweight and obesity in residents. For example, overweight adolescents who are able to ride their bikes three to four times a week are 85 percent more likely to fall within a normal weight range as adults.^{xxxiii}

Physical activity

Regular physical activity is one of the most important ways to maintain overall health and wellness. The U.S. Surgeon General recommends that all adults engage in at least 150 minutes of moderate to vigorous aerobic activity per week. The HA2020 goal for physical activity is to have 61 percent of the state population, age 18 and over, reporting 150 total minutes per week of moderate or vigorous physical activity.^{xxxiv}



All Alaskans

Currently, in Alaska, only three regions meet the HA2020 goal: the City and Borough of Juneau (67.4 percent), the Kenai Peninsula Borough (65.7 percent), and the Other Interior Region (61.5 percent). However, all but four regions have higher rates of physical activity than both the state average (58.5 percent) and national average (51 percent).^{xxxv}

Alaska Native

Within the Alaska Native population, four regions have suppressed data (i.e., unavailable data) – the City and Borough of Juneau, the Kenai Peninsula Borough, the Matanuska-Susitna Borough, and the Southeast Region – and thus physical activity rates are not provided. However, of the rates that are available, the Southwest Region reported the highest rate of physical activity (66.9 percent); higher than the HA2020 goal (61 percent). Whereas the Yukon-Delta Region and Northwest Region had particularly low rates of physical activity, 48.9 percent and 38.70 percent respectively.^{xxxvi}

The health benefits of greater physical activity, especially walking and biking, are manifold and include significant reductions in the risk of being overweight/obese and developing numerous chronic physical and mental conditions such as heart disease, high blood pressure, diabetes, stroke, certain types of cancers, depression, and anxiety.^{xxxvii,}

^{xxxviii, xxxix} Studies have shown that physical activity also has numerous cognitive benefits including enhanced creativity, improved memory, and better cognitive performance.^{xl, xli, xlii}

Active transportation allows individuals the opportunity to integrate physical activity into their daily routines, which has proven effective in increasing physical activity for commuting, but also may lead to behavior change when traveling for other purposes. For instance, evidence has shown that residents of walkable communities are twice as likely to meet physical activity guidelines than those who do not live in walkable areas.^{xliii} Adolescents who bike or walk to school are 30 percent more likely to bike or walk to other locations in their neighborhoods.^{xliv} Research has also found that walkable communities lead to increased physical activity as well as increased social interaction and cohesion.^{xlv}

Unintentional Injury

Unintentional injury is the third leading cause of death in the state of Alaska, with the Alaska Native population experiencing a disproportionate rate of unintentional injury mortality.^{xlvi, xlvi} In particular, falling is one of the leading causes of unintentional injury for both Alaskan residents and Alaska Natives, and is inclusive of slipping, tripping, and falling due to ice and snow, among other causes.^{xlviii, xlix} Also significant, is unintentional injury deaths from ATV and off-road vehicles, especially in more remote parts of the state for both Alaskan residents and Alaska Natives.^{l, li} Improved walking and bicycling facilities have the potential to have a marked impact on reducing unintentional injury from falling and ATV and off-road vehicle accidents, improving resident health and safety throughout the state.

All Alaskans

Every census area and borough with reported unintentional injury mortality data in Alaska had prevalence rates higher than the national average. Three census areas and boroughs (Dillingham Census Area, Lake and Peninsula Borough, and Yukon-Koyukuk Census Area), representative of the Other Interior and the Southwest regions, have particularly high rates of unintentional injury in comparison to the state and national average. Specifically, each region had a reported unintentional injury mortality rate of 153, 160.2, and 146.3 injuries per 100,000 population, respectively, in comparison to the state average of 52.4 injuries and the national average of 43.2 injuries per 100,000 population.^{lii}

Alaska Native

The Alaska Native population experiences a disproportionate rate of unintentional injuries. For comparison, while the national average for unintentional injury mortality is 43.2 injury deaths per 100,000 population and the state average is 52.4 injury deaths per 100,000 population, the *average* for the Alaska Native population in 2015 was 130.4 injury deaths per 100,000 population.^{liii} According to the Alaska Native Tribal Health Consortium's Alaska Injury Atlas, the leading causes of unintentional injury hospitalizations in the Alaska Native population between 2002 and 2011 were falls, at 37.6 percent, followed by suicide attempts (23.7 percent) and motor vehicle collisions (10.8 percent).^{liv} In all but two regions, falls were the leading cause of hospitalization for unintentional injury among Alaskan Natives (Figure 2).^{lv}

According to the Alaska Native Tribal Health Consortium's Alaska Injury Atlas, from 2002-2011, off-road vehicle injury deaths, inclusive of persons on the outside of the off-road vehicle who are injured, was the second leading cause of unintentional injury death for Alaska Natives in the Arctic Slope region, the third leading cause in the Northwest Arctic and Yukon-Kuskokwim regions, and the fourth leading cause in Bristol Bay (Figure 3).^{lvi, lvii*} For unintentional injury hospitalizations of Alaska Natives, ATV accidents, inclusive of those involving bicyclists and pedestrians, were the second leading cause of unintentional injury hospitalizations in Bristol Bay; the third leading cause in the Aleutians & Pribilofs; the fourth lead cause in the Arctic Slope, Kodiak, and Norton Sound; and the fifth leading cause in the Kenai Peninsula, Northwest Arctic, and Yukon-Kuskokwim.^{lviii, lix*} Snow machine accidents also ranked within the top six leading causes of unintentional injury hospitalization for Alaska Natives for many regions during this time period and represent a point of concern (Figure 2).^{lx}

Improving safe and accessible walking and bicycling infrastructure has the potential to derive a considerable impact on reducing injury and hospitalizations in the Alaska Native population, as well as the Alaskan adult population as a whole. According to a study of pedestrians in Sweden, a climate similar to that of Alaska, pedestrian unintentional injuries tended to increase in the winter due to slippery conditions related to snow and ice.^{lxi} In an effort to reduce the incidence of falls in Alaska, it is recommended to examine maintenance strategies to reduce slipping on ice, developing education programs about preventing falls on ice, and making recommendations about lighting requirements. Improved, as well as dedicated bicycle and pedestrian facilities removed from motor

* Note: Regions for unintentional injuries differ from the ten behavioral health regions used throughout the remainder of the analysis. Regions for unintentional injuries referred to in this section can be found in the [2014 Alaska Native Injury Atlas](#).

vehicles, off-road vehicles, ATVs, and snow machines, also has the potential to reduce the number of unintentional injury deaths and hospitalizations resulting from conflicts with pedestrians and cyclists. The HA2020 goal for unintentional injury in Alaska is 54.8 injuries per 100,000 population and the Alaska Statewide Bicycle and Pedestrian Plan can contribute greatly to achieving this goal, especially with regard to reducing falls and off-road vehicle, ATV, and snow machine accidents.

Figure 2. Alaska Native Injury Atlas – Leading Causes of Injury Hospitalization by Region

ALASKA NATIVE INJURY ATLAS

Figure 27. Leading Causes of Injury Hospitalization by Region, All Alaska Native People, 2002-2011 *

Data Source: Alaska Trauma Registry

| | Aleutians & Pribilofs | Anchorage & MatSu | Arctic Slope | Bristol Bay | Copper River/PWS | Interior | Kenai Peninsula | Kodiak | Northwest Arctic | Norton Sound | Southeast | Yukon- Kuskokwim | Total |
|--------------|--------------------------|----------------------------|----------------------------|---------------------------|---------------------------|----------------------------|---------------------------|---------------------------|----------------------------|----------------------------|----------------------------|----------------------------|---|
| 1 | Falls 61 | Falls 1,328 | Falls 234 | Falls 223 | Falls 68 | Falls 534 | Falls 166 | Falls 68 | Suicide Attempts 301 | Suicide Attempts 514 | Falls 771 | Falls 679 | Falls [†] 4,801 |
| 2 | Assault 17 | Assault 624 | Suicide Attempts 109 | ATV 98 | Motor Vehicle 38 | Suicide Attempts 355 | Motor Vehicle 92 | Suicide Attempts 35 | Falls 278 | Falls 348 | Suicide Attempts 335 | Suicide Attempts 647 | Suicide Attempts [†] 3,021 |
| 3 | ATV 13 | Motor Vehicle 615 | Assault 80 | Suicide Attempts 88 | Suicide Attempts 19 | Assault 264 | Suicide Attempts 63 | Motor Vehicle 23 | Assault 208 | Assault 128 | Assault 201 | Assault 357 | Assault [†] 2,045 |
| 4 | Suicide Attempts 7 | Suicide Attempts 539 | ATV 72 | Assault 88 | Assault 19 | Motor Vehicle 180 | Assault 31 | ATV 16 | Snow- machine 136 | ATV 111 | Motor Vehicle 169 | Snow- machine 259 | Motor Vehicle [†] 1,376 |
| 5 | Motor Vehicle 7 | Other Vehicle 162 | Snow- machine 63 | Snow- machine 53 | Snow- machine 9 | Snow- machine 98 | ATV 17 | Other Vehicle 13 | ATV 102 | Snow- machine 76 | Other Vehicle 79 | ATV 193 | ATV 774 |
| 6 | Other Vehicle 6 | Cut 93 | Motor Vehicle 42 | Motor Vehicle 46 | Other Vehicle 8 | ATV 72 | Struck by Object 16 | Assault 12 | Other Vehicle 40 | Motor Vehicle 56 | Poisoning 50 | Cut 126 | Snow- machine [†] 749 |
| Total | 133 | 3,913 | 724 | 810 | 203 | 1,895 | 479 | 210 | 1,263 | 1,513 | 1,904 | 2,942 | 16,141[†] |

† 152 cases missing the region of occurrence: 37 Falls, 15 Suicide Attempts, 19 Assaults, 18 Motor Vehicle, 7 ATV, 9 Snowmachine, and 47 Other

Figure 3. Alaska Native Injury Atlas – Leading Causes of Injury Death by Region

ALASKA NATIVE INJURY ATLAS

Figure 2. Leading Causes of Injury Death by Region, Alaska Native People, 2002-2011

Data Source: Alaska Bureau of Vital Statistics

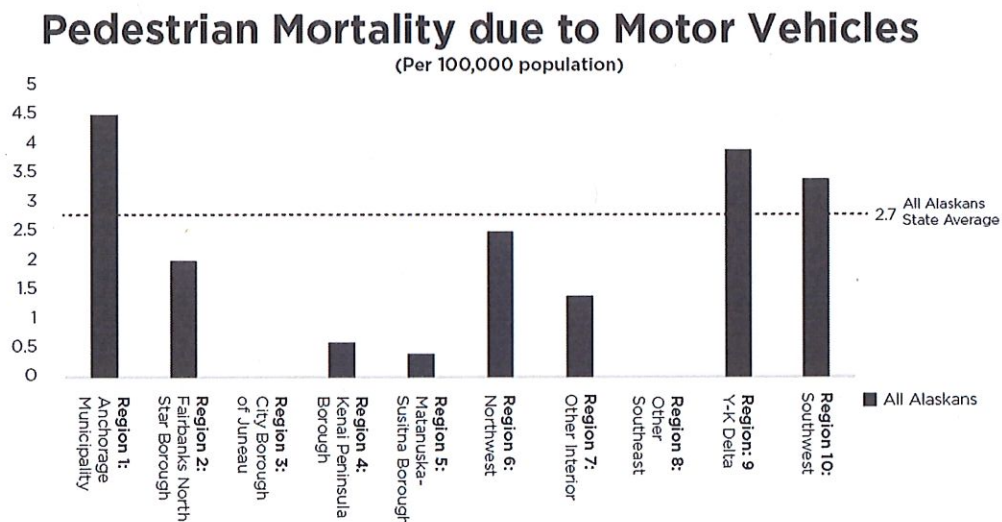
| | Aleutians & Pribilofs | Anchorage & MatSu | Arctic Slope | Bristol Bay | Copper River/PWS | Interior | Kenai Peninsula | Kodiak | Northwest Arctic | Norton Sound | Southeast | Yukon- Kuskokwim | Total |
|-------|--------------------------|-------------------------|--------------------------|---------------------------|-----------------------|-------------------------|------------------------|--------------|---------------------------|------------------------|------------------------|---------------------------|------------------------------|
| 1 | §§ | Poisoning 135 | Suicide 28 | Drowning 19 | Suicide 6 | Suicide 54 | Suicide 13 | Suicide 5 | Suicide 48 | Suicide 64 | Suicide 28 | Suicide 130 | Suicide 478 |
| 2 | | Suicide 86 | Off-Road Vehicle 9 | Poisoning 14 | Motor Vehicle 6 | Poisoning 32 | Motor Vehicle 13 | §§ | Drowning 17 | Poisoning 14 | Poisoning 28 | Drowning 57 | Poisoning 276 |
| 3 | | Motor Vehicle 70 | Drowning 8 | Suicide 12 | §§ | Motor Vehicle 20 | Poisoning 9 | | Off-Road Vehicle 11 | Drowning 14 | Drowning 17 | Off-Road Vehicle 28 | Drowning 168 [†] |
| 4 | | Homicide 51 | Motor Vehicle 5 | Off-Road Vehicle 11 | | Excessive Cold 20 | §§ | | Excessive Cold 10 | Motor Vehicle 11 | Homicide 12 | Homicide 26 | Motor Vehicle 158 |
| 5 | | Excessive Cold 21 | §§ | Excessive Cold 7 | | Drowning 18 | | | Poisoning 10 | Homicide 11 | Motor Vehicle 10 | Poisoning 25 | Homicide 125 |
| Total | 22 | 491 | 61 | 97 | 25 | 199 | 51 | 20 | 117 | 154 | 134 | 346 | 1,718 [†] |

§§ Categories with fewer than 5 deaths are not reported

† One case missing the region of occurrence

Health Indicator Analysis – Supplemental Health Indicators

In addition to those health indicators identified in HA2020, a variety of other important health indicators were assessed for the state that are relevant to active transportation.

Pedestrian Mortality due to Motor Vehicles

All Alaskans

For the pedestrian mortality due to motor vehicles indicator, data was only available for all Alaskans. The Anchorage Municipality has a considerably higher incidence of pedestrian mortality due to motor vehicles compared with statewide and national averages, at 4.5 deaths per 100,000 population compared with 2.7 deaths and 3.1 deaths per 100,000 population, respectively. The Y-K Delta and Southwest Regions also have particularly high rates of pedestrian mortality, greater than the state and national averages, despite their low population densities. In contrast, the City and Borough of Juneau, the Kenai Peninsula Borough, the Matanuska-Susitna Borough, and the Other Southeast region had considerably lower incidences of pedestrian mortality due to motor vehicles than the statewide and national average, with 0, 0.6, 0.4, and 0 deaths per 100,000 population, respectively.^{lxii} Improved walking and biking facilities will directly support the reduction of pedestrian mortalities, a highly preventable cause for mortality. Safety improvements aimed at reducing pedestrian mortality should be emphasized, particularly in the Anchorage Municipality, Y-K Delta, and Southwest regions.^{lxiii}

In comparison to the rest of the state, Anchorage is likely to have some of the highest rates of vehicular, as well as pedestrian use due to its population size and density. However, it is significant to note that Anchorage's pedestrian mortality rate is considerably higher than the national average, which may indicate a need for better pedestrian infrastructure within the municipality of Anchorage. In contrast, the Matanuska-Susitna Borough is likely to have high rates of vehicular use and lower rates of pedestrian use, due to the region's low density. Low density, similar to many other regions throughout Alaska, may begin to explain low rates of pedestrian mortality due to motor vehicles.

Bicycle Mortality due to Motor Vehicles

In 2013, the rate of bicyclist (pedalcyclist) mortality due to motor vehicles in the state of Alaska was 1.36 per million population compared with the national average of 2.35 per million population.^{lxiv} However, from 2001 to 2011, an average of 174 traffic crashes involving bicycles occurred, and from 2003 to 2008, approximately 76.7 percent of those crashes on average resulted in minor to serious injury. Additionally, an average of 76.63 percent of all bicycle crashes due to motor vehicles from 2001 to 2011 in Alaska occurred in the greater Anchorage area.^{lxv}

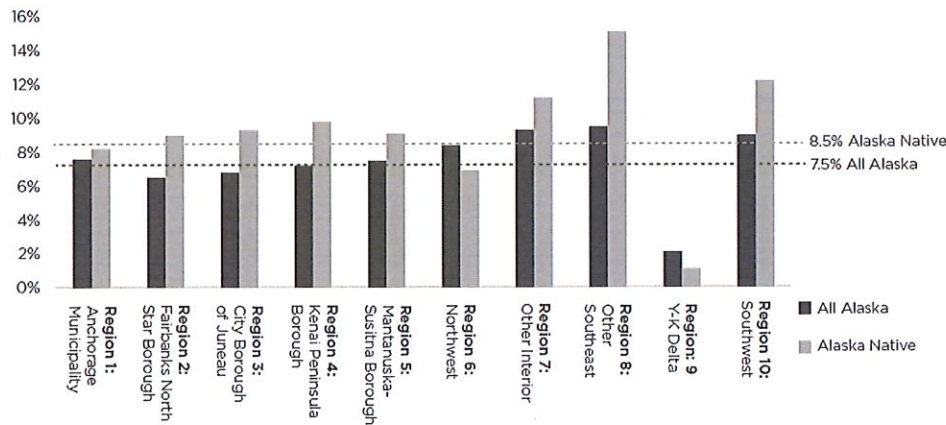
While bicycle fatalities due to motor vehicles in Alaska do not represent a leading cause of death, they do contribute to over a hundred injuries, and at least one death per year, in the state of Alaska, the majority of time in the greater Anchorage metropolitan area.^{lxvi} Further, according to the Pedestrian and Bicycle Information Center, bicycle crash data is largely under-reported, meaning that the number of injuries and fatalities could be greater than recorded.^{lxvii} Improved safety and separation of bicycle and pedestrian facilities in Anchorage, as well as other urban areas throughout the state, such as Fairbanks and Juneau, has the potential to reduce the number of bicycle injuries and fatalities due to motor vehicle collisions. In one study looking at cyclist injury rates in Vancouver and Toronto, it was found that separated bike lanes reduced risk of injury for cyclists by as much as 90 percent.^{lxviii}

Diabetes prevalence

Diabetes is the seventh leading cause of death in Alaska.^{lxix} The health risks associated with diabetes can be quite serious and include heart disease, stroke, blindness, kidney disease, high cholesterol, and permanent lower-

extremity nerve damage.^{lxx, lxxi} While there are a number of genetic factors that contribute to a person's risk of developing diabetes, there are also many modifiable factors that a person can control to prevent the disease. These modifiable risk factors include overweight/obesity, physical inactivity, high blood pressure, and abnormal cholesterol.^{lxxii} Improving the safety, access, and availability of walking and bicycling infrastructure, policy, and programming will provide opportunities for increased physical activity and an associated reduced risk for diabetes.

Diabetes Prevalence



All Alaskans

As of 2015, the diabetes prevalence was high in the Other Southeast and Other Interior regions compared with the rest of the state and the nation. Specifically, the diabetes prevalence in the Other Southeast was 9.5 percent, and in the Other Interior region, 9.3 percent. The diabetes prevalence rate for the state was 7.5 percent, and 9.19 percent for the nation. The Y-K Delta had the lowest diabetes prevalence rate in the state at 2.1 percent.^{lxxiii}

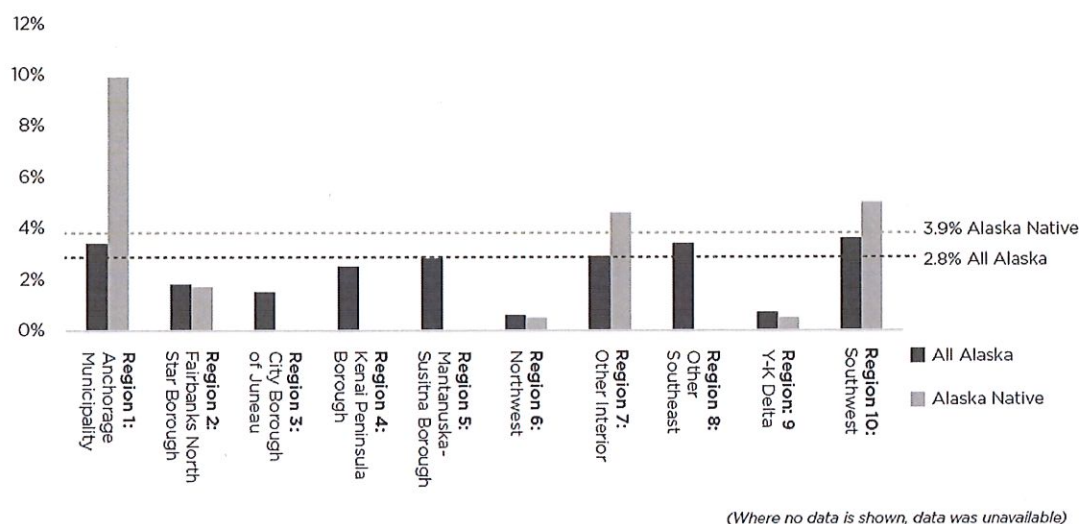
Alaska Native

There is a disproportionate rate of diabetes reported in the Alaska Native population, with five out of ten regions experiencing diabetes rates higher than state and national averages, and rates close to the national average in two additional regions. Similar to the "All Alaskans" analysis, the Y-K Delta region has the lowest diabetes prevalence rate for the Alaskan Native population at 1.1 percent.^{lxxiv}

Coronary heart disease

Coronary heart disease (CHD) is the second leading cause of death in Alaska, as well as in the Alaska Native population.^{lxxv, lxxvi} Genetic factors play a role in people's risk for CHD, but a number of risk factors are highly preventable, including diabetes, overweight/obesity, poor diet, and physical inactivity.^{lxxvii} Approximately half of Americans have at least one of these risk factors, which doubles a person's risk of having CHD.^{lxxviii, lxxix} The prevalence of each of the previous risk factors for CHD can be significantly reduced by improved pedestrian and bicycle infrastructure and active transportation encouragement programs and policies.

Coronary Heart Disease Prevalence



All Alaskans

The prevalence rate for CHD for all Alaskans is elevated in the Anchorage Municipality, the Other Interior, Other Southeast, and the Southwest regions compared with state and national averages. Particularly in the Southwest Region of Alaska, the CHD prevalence rate is almost 30 percent higher than the state average. In contrast, the Northwest and Y-K Delta regions have particularly low rates of CHD compared with state and national averages.^{lxxx}

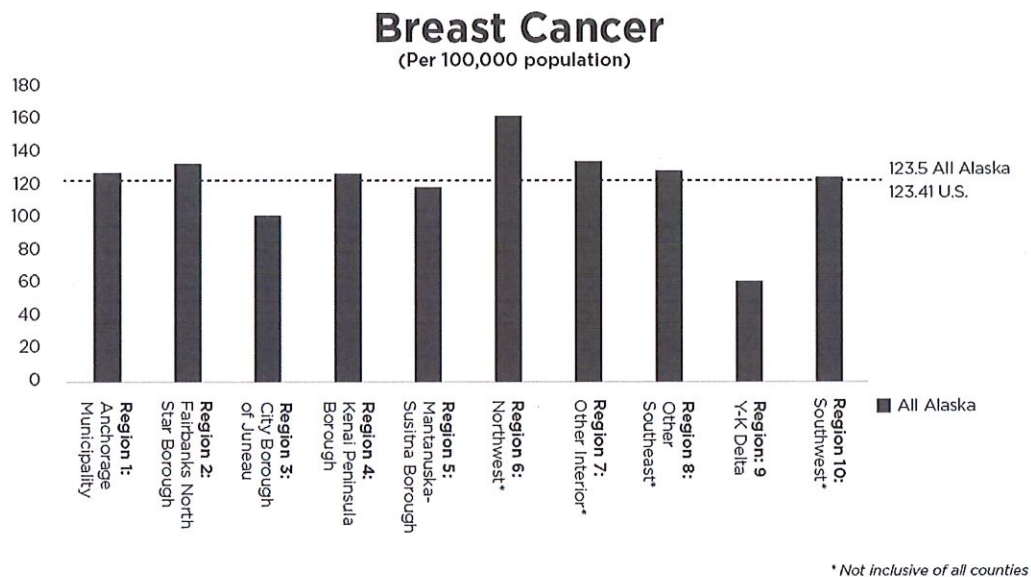
Alaska Native

In the Alaska Native population, while the City and Borough of Juneau, Kenai Peninsula Borough, Matanuska-Susitna Borough, and Other Southeast have suppressed data, half of the reporting regions experienced high rates of CHD. In particular, the Anchorage Municipality has a 9.9 percent prevalence rate of coronary heart disease for Alaskan Natives, over three and half times the state average for all adults. This should be an important consideration when developing the statewide bicycle and pedestrian plan.^{lxxxi}

Cancer

Breast Cancer

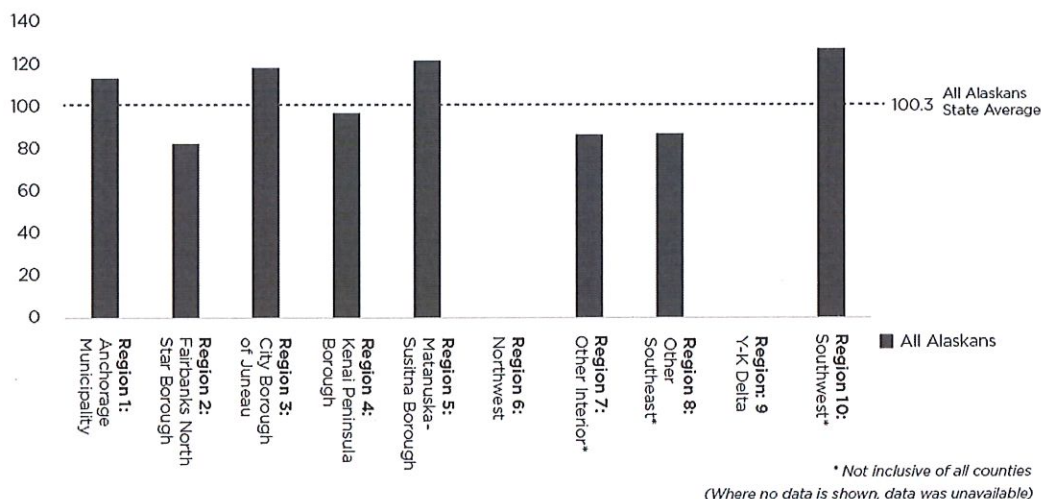
Seven of the ten Alaska behavioral health regions have elevated prevalence rates of breast cancer compared with state and national averages. Most notable, in the Northwest region, breast cancer rates are about 30 percent higher than the state and national average, as well as almost every other region in the state. In contrast, the Y-K Delta has the lowest rate of breast cancer in the state, at 61.5 per 100,000 population, compared with 123.5 per 100,000 population for All Alaskans and 123.4 per 100,000 population for the nation.^{lxxxii} Alaska Native specific-data is not available for this indicator.^{lxxxiii}



Prostate Cancer

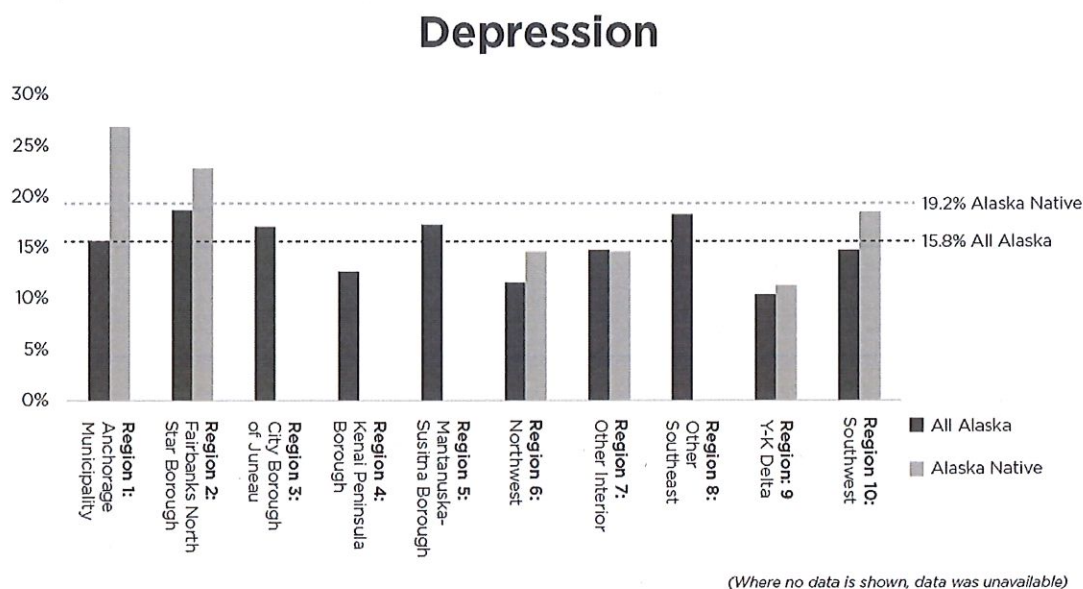
Two regions did not report data for prostate cancer, the Northwest and Y-K Delta regions. Of the remaining regions, the Southwest region was the only area with an elevated rate of prostate cancer, 126.8 per 100,000 population, in comparison to the state and national averages of 100.3 and 123.41 per 100,000 population, respectively. Three additional regions (the Anchorage Municipality, the City and Borough of Juneau, and the Matanuska-Susitna Borough) reported rates in between state and national averages. The regions with prostate cancer prevalence rates lower than the state and national averages had rates close to the state average.^{lxxxiv}

Prostate Cancer



Cancer is the leading cause of mortality in Alaska, with the Alaska Native population making up a disproportionate percentage of overall cancer deaths.^{lxxxv, lxxxvi} While the exact cause of both breast and prostate cancer is unknown, there are certain risk factors that have been linked with each cancer, including overweight/obesity and physical activity.^{lxxxvii, lxxxviii}

An integrated and safe bicycle and pedestrian network will serve to increase rates of physical activity and reduce the risk of obesity and overweight, which in turn can have a direct impact on cancer rates. For instance, one study found that women who walked over seven hours per week (as their only form of recreational activity) had a 14 percent lower risk of observed breast cancer compared than those who only walked 3 hours per week.^{lxxxix} Men who exercised vigorously for over three hours per week experienced a 61 percent lower risk of death from prostate cancer compared to men who only exercised vigorously for less than one hour per week.^{xc} At the same time, obese men were more likely to have their cancer spread beyond the prostate gland and more likely to die from prostate cancer.^{xcj}

Depression*All Alaskans*

The Fairbanks North Star Borough, the City and Borough of Juneau, the Matanuska-Susitna Borough, and the Other Southeast all have elevated rates of depressions compared with the state average. In contrast, the Y-K Delta Region had a rate almost 35 percent less than the state average.^{xcii}

Alaska Natives

The City and Borough of Juneau, the Kenai Peninsula Borough, the Matanuska-Susitna Borough, and the Other Southeast region have suppressed depression prevalence rates for Alaska Natives. Of the reported regions, the Anchorage Municipality and the Fairbanks North Star Borough have rates of depression well above both the state average for All Alaskans and for Alaska Natives. Anchorage in particular had a rate of depression for Alaskan Natives in 2015 that was 70 percent greater than the state average. The Southwest region also has elevated rates above the state average for All Alaskans.

Determinants of mental illness can be individual, social and environmental, and broken down into adverse and protective factors.^{xciii} Adverse or risk factors are those characteristics at the individual, social, or environmental level that are associated with a higher likelihood of problem outcomes, whereas protective factors are those characteristics associated with a lower likelihood of problem outcomes.^{xciv} Creating more livable, healthy, and well-connected communities has a direct impact on many of the protective factors of mental illness. Promoting increased bicycle and pedestrian activity is directly related to improved physical health and fitness. One study found that bicycling improves self-confidence, tolerance to stress, and overall well-being; while another study indicates that 30 minutes of daily moderate intensity physical activity (walking or biking) at least three days a week, is associated with reduced anxiety, depression, and improved self-esteem and social interaction.^{xcv xcvi}

Asthma

While asthma prevalence data is not available by the ten geographic behavioral health regions, it is available at the state level and is an important chronic health indicator to consider as it is associated with numerous chronic co-morbidities and may be directly impacted by the bicycle and pedestrian plan. Chronic lower respiratory diseases, inclusive of asthma, is the fourth leading cause of death in Alaska.^{xcvii, xcviii} According to the Alaska Department of Health and Social Services, in 2015, the percentage of adults, 18 years and older, with asthma was 8.5 percent for all Alaskans and 9.4 percent for Alaska Natives, in comparison to the national average of 9.2 percent.^{xcix} This indicates a disproportionately high rate of asthma for Alaska Natives compared with all Alaskan residents.

While there are many theories about the cause of asthma, researchers believe it is most likely a combination of genetic and environmental factors.^c One of the triggers of asthma is airborne particulate matter (PM) less than 10 micrometers in diameter, which are considered inhalable particles and are associated with serious respiratory concerns. These inhalable particles may include motor vehicle exhaust, dust, wild fire, among others.^{ci, cii} While more research is needed to establish a causal relationship between PM and the development of asthma, studies have shown that PM in the air exacerbates asthma, impairs lung function, and may increase the prevalence of asthma attacks, especially in children.^{ciii, civ, cv} Localized dust in the air in communities in Alaska may be of concern and contribute to asthma prevalence among residents, but more data is needed at the local level to make this conclusion. If dust is contributing to worsened asthma in localized areas of Alaska, improved walking and bicycling infrastructure and access, as well as separated and non-motorized facilities have been shown to reduce exposure to air pollutants from motor vehicles. Specifically, in one study, separated bike facilities reduced exposure to vehicular pollutants by as much as 33 percent.^{cvi} Improved bicycle and pedestrian facilities and access may also serve to reduce chronic diseases associated with asthma, such as obesity, overweight, hypertension, etc. and in turn, reduce incidence of asthma in Alaskan residents.^{cvi}

Next Steps

The information presented in this memo will help guide the development of a “health logic model” for the Alaska Statewide Bicycle and Pedestrian Plan. A health logic model is a pathway diagram depicting the connections between the Plan’s objectives (e.g., data and policy review), outputs (e.g., Alaska Bike and Pedestrian Master Plan strategies/recommendations), short- and long-term outcomes, and potential health impacts (e.g., meeting HA2020 goals). This baseline analysis and the forthcoming health logic model will then serve to inform the Alaska Statewide Bicycle and Pedestrian Plan’s priorities, activities, and policies around health and equity, and will help to inform decisions regarding active transportation investments throughout the state. The Statewide Bicycle and Pedestrian Plan will better position AKDOT&PF and local/regional partners in undertaking efforts to improve public health. Collaboration with the health sector will also aid in leveraging funding for implementation of the Plan’s health efforts. This baseline health analysis can also be used to inform the Plan’s overarching goals, objectives and performance measures.

The following health indicator measures should be considered when developing and prioritizing transportation projects, programs, implementation measures, and policies. Each represent health indicators that have prevalence rates above the state average for All Alaskans.

| Health Indicator | Region 1: Anchorage Municipality | Region 2: Fairbanks North Star Borough | Region 3: City and Borough of Juneau | Region 4: Kenai Peninsula Borough | Region 5: Matanuska-Susitna Borough | Region 6: Northwest | Region 7: Other Interior | Region 8: Other Southeast | Region 9: Y-K Delta | Region 10: Southwest |
|-----------------------------------|----------------------------------|--|--------------------------------------|-----------------------------------|-------------------------------------|---------------------|--------------------------|---------------------------|---------------------|----------------------|
| Obesity Prevalence | | | | | | | | | | |
| Overweight Prevalence | | | | | | | | | | |
| Physical Activity Prevalence | | | | | | | | | | |
| Pedestrian Mortality Prevalence | | | | | | | | | | |
| Diabetes Prevalence | | | | | | | | | | |
| Coronary Heart Disease Prevalence | | | | | | | | | | |
| Breast Cancer Prevalence | | | | | | | | | | |
| Prostate Cancer Prevalence | | | | | | | | | | |
| Depression Prevalence | | | | | | | | | | |

Conclusion

The Alaska Statewide Bicycle and Pedestrian Plan presents a unique opportunity for the state of Alaska to achieve improved widespread physical, mental and social health through increased access and opportunities for walking and bicycling. While many behavioral health regions are doing well compared with state and national averages for many of the health indicators analyzed, there are evident areas of concern, particularly in the Alaska Native population. In particular, rates of pedestrian mortality, obesity and overweight, breast cancer, diabetes, coronary heart disease, depression, and unintentional injury are particularly high in certain regions of the state. Active transportation investments represent a cost-effective means to reduce the prevalence of each of these highly preventable risk factors and health concerns and help meet HA2020 goals.

Health Logic Model

Introduction

The Alaska Statewide Bicycle and Pedestrian Master Plan health logic model (see Figure 4) is a graphic depiction of the relationships between the activities necessary for development of the primary output, the Master Plan, and the associated short-, medium-, and long-term health outcomes that occur as a result of Master Plan implementation. The logic model serves as a roadmap of the many ways in which bicycle and pedestrian infrastructure and policies may contribute to improved health for people in Alaska.

Health Logic Model Development

The health logic model is based on the goals defined in the Master Plan's Vision, Goals and Objectives, as well as informed by the health data synthesis provided in the Regional Health Profiles analysis (see separate Regional Health Profiles Memorandum). Both the Master Plan goals and the Regional Health Profiles data synthesis are incorporated into the short-, medium-, and long-term outcomes of the health logic model. The health logic model is read from left to right, and relationships between components are indicated via solid arrows.

Health Logic Model Framework

Activities

The health logic model begins with a list of activities necessary for the development of the Alaska Statewide Bicycle and Pedestrian Master Plan. Activities include the formation of the Master Plan goals and objectives, a review of existing bicycle and pedestrian facilities (based on available data), preparation of the Regional Health Profiles and economic analyses, and community and stakeholder engagement.

Output

The primary output of the health logic model is the Alaska Statewide Bicycle and Pedestrian Master Plan, inclusive of the five goals that the Plan aims to achieve, listed in the model. Each of these goals is closely tied to the resulting health outcomes in the health logic model. An explanation of how each Master Plan goal is related to the corresponding health outcomes in the logic model is as follows:

- **Goal 1: Safety** – In the health logic model, the goal of safety, or improved safety of bicycling and walking throughout Alaska, has the potential to lead to increased active transportation use throughout the state, reduced chronic illnesses and collision mortality, and improved overall health for people in Alaska.
- **Goal 2: Health** – In the health logic model, the goal of health may be achieved throughout the short-, medium-, and long-term outcomes in direct response to implementing the Master Plan.
- **Goal 3: Maintenance/System Preservation** – In the health logic model, the goal of improved maintenance and system preservation, especially during winter months, may encourage and potentially increase active transportation use and the safety of bicyclists and pedestrians, reduce chronic illnesses and unintentional injuries due to slipping or falling, and consequently, improve overall health for people in Alaska.
- **Goal 4: Connectivity** – In the health logic model, the goal of connectivity, or improved connectedness of bicycle and pedestrian facilities throughout urban and rural areas of the state, may increase active transportation use of such facilities; increase resident access to healthy food options, jobs, and services in urban areas; improve remote access to subsistence fishing and hunting routes; and overall, improve the health of people in Alaska due to increased physical activity and access to healthy food options.
- **Goal 5: Economic Development** – Improved bicycle and pedestrian facilities and policies may contribute greatly toward boosting local economies through tourism, jobs, and service access for residents, which in turn may improve socioeconomic conditions and overall health.

Short-term Outcomes

The short-term outcomes of the logic model demonstrate the immediate effects of implementing the Statewide Bicycle and Pedestrian Master Plan, and typically occur within one to four years. Implementing the Master Plan's policies and recommendations throughout the state occurs first, resulting in subsequent short-term outcomes such as increased walking and bicycling, improved mobility options, and increased transit use. Within the short-term timeframe, a third series of outcomes stems from the initial outcomes including an increased rate of adults and children meeting physical activity guidelines, increased time that people in Alaska spend outside, improved safety for cyclists due to increased numbers of residents using active transportation, and increased numbers of children walking and bicycling to school. It is important to note that in order to achieve the eventual long-term outcome of reduced health disparities and improved overall health for people in Alaska, implementation of the Statewide Bicycle and Pedestrian Master Plan should consider the existing health disparities highlighted in the Regional Health Profiles, and adapt bicycle and pedestrian policies appropriately.

Medium-term Outcomes

Medium-term outcomes, which may occur between four and seven years after policies are implemented, begin to address the specific health concerns identified in the Regional Health Profiles analysis. In particular, statewide active transportation policies and projects may reduce rates of chronic disease in all populations throughout the state, reduce unintentional injury and injury deaths due to motor vehicles and off-road vehicle collisions, and improve economic output by improving access to jobs and services. If the Master Plan and its recommended policies specifically target health disparities and those populations with significant health concerns, medium-term health impacts are likely to have a positive impact on overall health in all populations throughout the state. For example, specific consideration of culturally relevant and appropriate policies or programs that help to increase Alaska Natives' use of bicycle and pedestrian facilities in Anchorage may help reduce the disproportionate rate of obesity and coronary heart disease among the Alaska Native population in that region.

Long-term Outcomes

Over time, policies and programs that result from the Alaska Statewide Bicycle and Pedestrian Master Plan have the potential to:

- Greatly increase the number of Alaskans and visitors using active transportation in all regions of the state
- Improve overall physical, mental, and social health in all populations
- Help the state meet its Healthy Alaskans 2020 goals of reduced chronic disease prevalence and unintentional injuries
- Reduce health care spending on chronic conditions
- Minimize health disparities and socioeconomic inequities throughout the state.

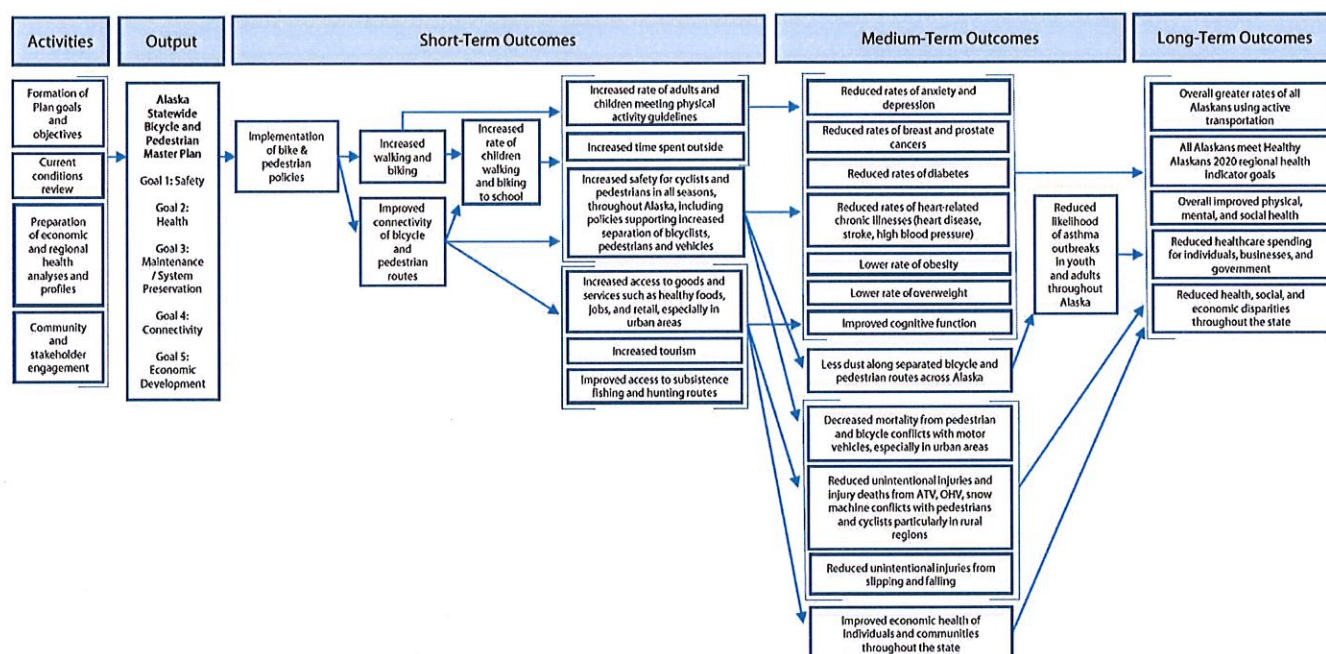
Importance

The health logic model provides a roadmap and insight into the potential positive health impacts of implementing the Alaska Statewide Bicycle and Pedestrian Master Plan, assuming Plan goals are realized. During Master Plan development, the model serves as a guide in the development of policy recommendations that target the intended health outcomes, and can be used to develop specific indicators to evaluate outcomes. Upon Master Plan

completion, the health logic model provides guidance for how to effectively implement the Plan in such a way as to achieve the desired health outcomes. The visual appeal of the health logic model also makes it a powerful tool to communicate the Master Plan's impact to stakeholders, decision makers and the broader public, while providing a persuasive instrument during strategic partnership development and in grant funding applications.

Overall, successful implementation of the Alaska Statewide Bicycle and Pedestrian Master Plan has potential to create long-lasting and meaningful change in the overall health status and health equity of all Alaskan populations. The health logic model is an important tool demonstrating the relationship between the Master Plan and these health outcomes, and should be used to guide development of policy recommendations, implementation of the Master Plan, and plan evaluation.

Figure 4. Health logic model: health improved throughout outcomes



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Appendix C

Equity Indicator Maps





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APPENDIX C

To: Alaska DOT & PF
From: Alta Planning + Design
Date: September 15, 2017

Re: Alaska Statewide Bicycle and Pedestrian Plan | Task 5.B State and User Profiles Demographic Analysis

Appendix 1: Demographic Analysis

The following series of maps presents the findings from the demographic analysis conducted in support of the State and User Profile analysis. The findings of this analysis provide an increased understanding of population characteristics throughout Alaska and how they differ among regions. The populations explored here are typically connected with historically disadvantaged or vulnerable communities who are also more likely to experience decreased transportation access or have other specific needs regarding transportation. For example, populations over 65 often rely on options other than driving as 61% of American adults over this age have at least one activity-based limitation¹, and safe, walkable communities can help these individuals maintain independence when driving is no longer a safe option.

The following demographic indicators are explored:

- **Race:** This indicator measures the percentage of the population that identifies as non-white. Within Alaska, this helps provide insight into where Alaska Native populations are located, specifically in relation to the Alaska Native Tribal Health Consortium's Alaska Native Injury Atlas.
- **Age:** Individuals under the age of 18 and over the age of 65 comprise this indicator. These two age groups are displayed separately to better identify the differing needs of these populations.
- **Income:** This indicator measures individuals of working age living at or below 200% of the Federal Poverty Level, which is a threshold set by the U.S. Census Bureau and is updated annually.
- **Educational Attainment:** This indicator represents the percentage of the population over 25 years of age that does not have a high diploma or equivalent.
- **No Access to a Motor Vehicle:** This indicator represents the percentage of the population without access to a vehicle. This specifically relates to the availability of passenger cars, trucks, and vans but does not consider the availability of ATVs or snow machines, which may be particularly prevalent and beneficial in Alaska.

The data presented in the maps below is based on American Community Survey 2014 5-year estimates and presents the concentration of individuals meeting the defined criteria in relation to the state mean. Darker areas have a larger percentage of population meeting the defined criteria, while lighter areas are not as highly concentrated.

¹ National Center for Health Statistics. Health, United States, 2016. *Cent Dis Control Prev.* 2016.

The maps present the data at the Census Tract level to provide greater understanding of the distribution within each region; however, the health region boundaries identified as the unit of analysis for this plan are also included to facilitate comparison among regions.

FIGURE 1:
UNDER THE AGE OF 18
BY CENSUS TRACT

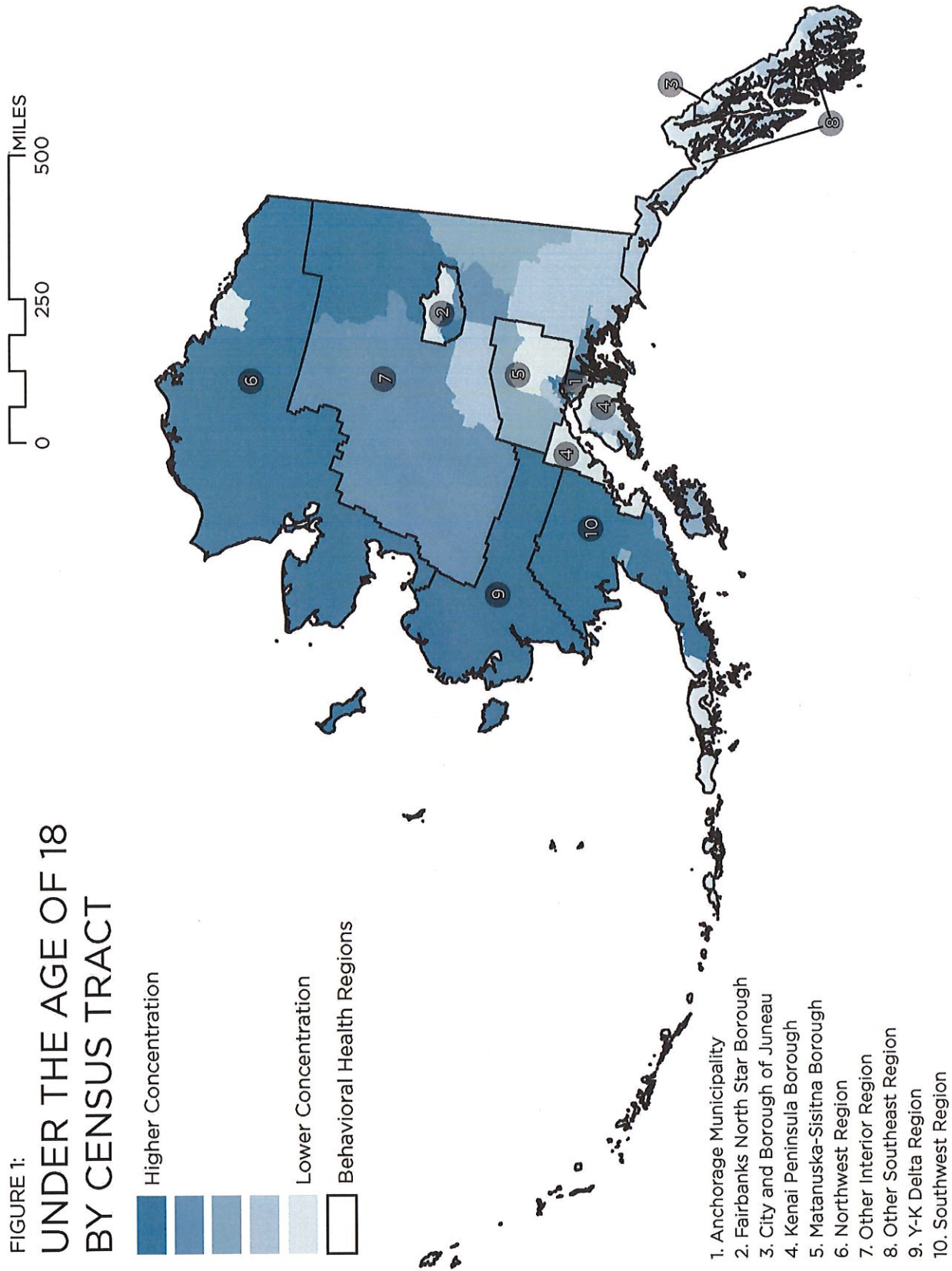


FIGURE 2:

AGE 65 AND OLDER BY CENSUS TRACT

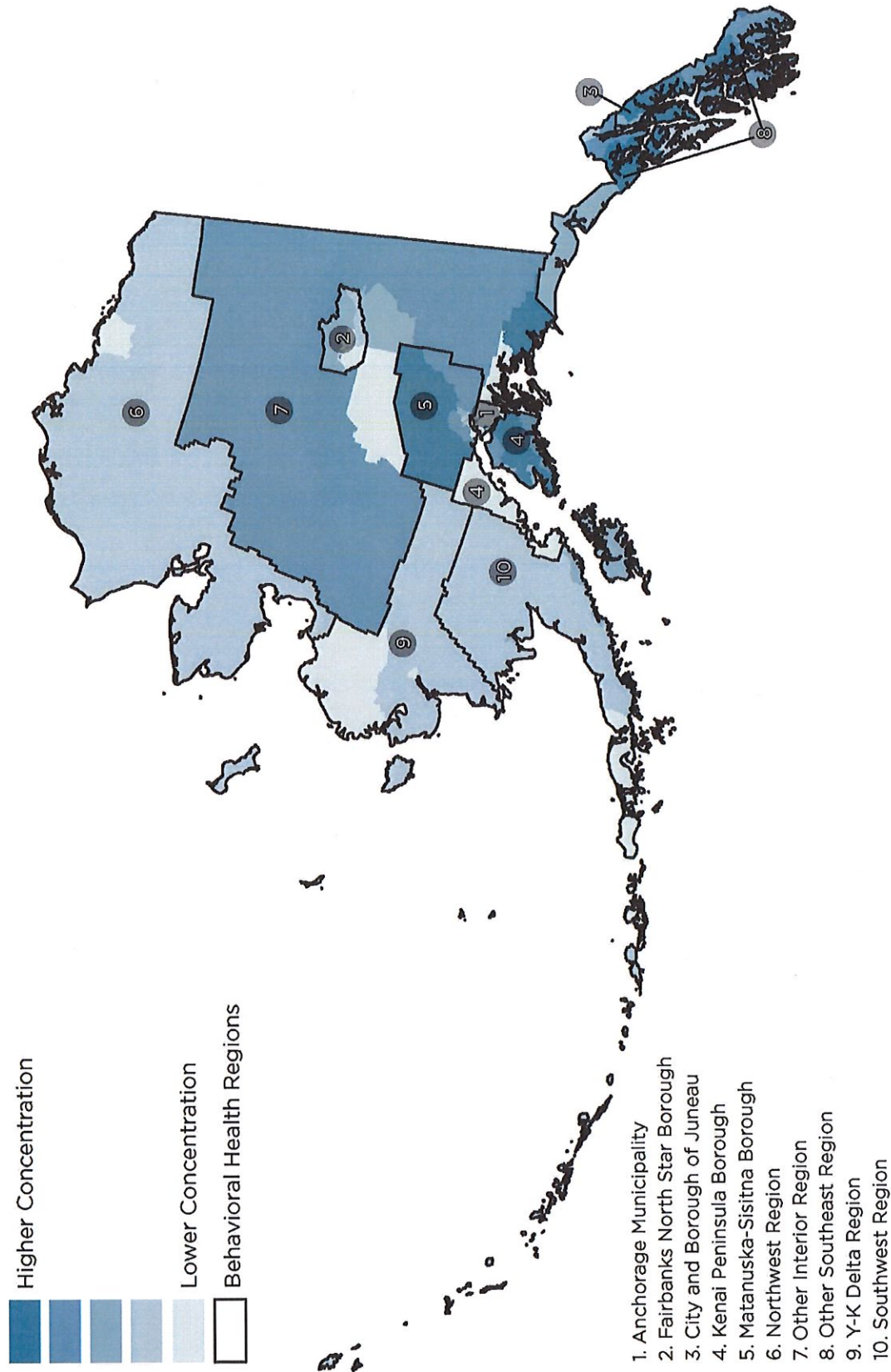
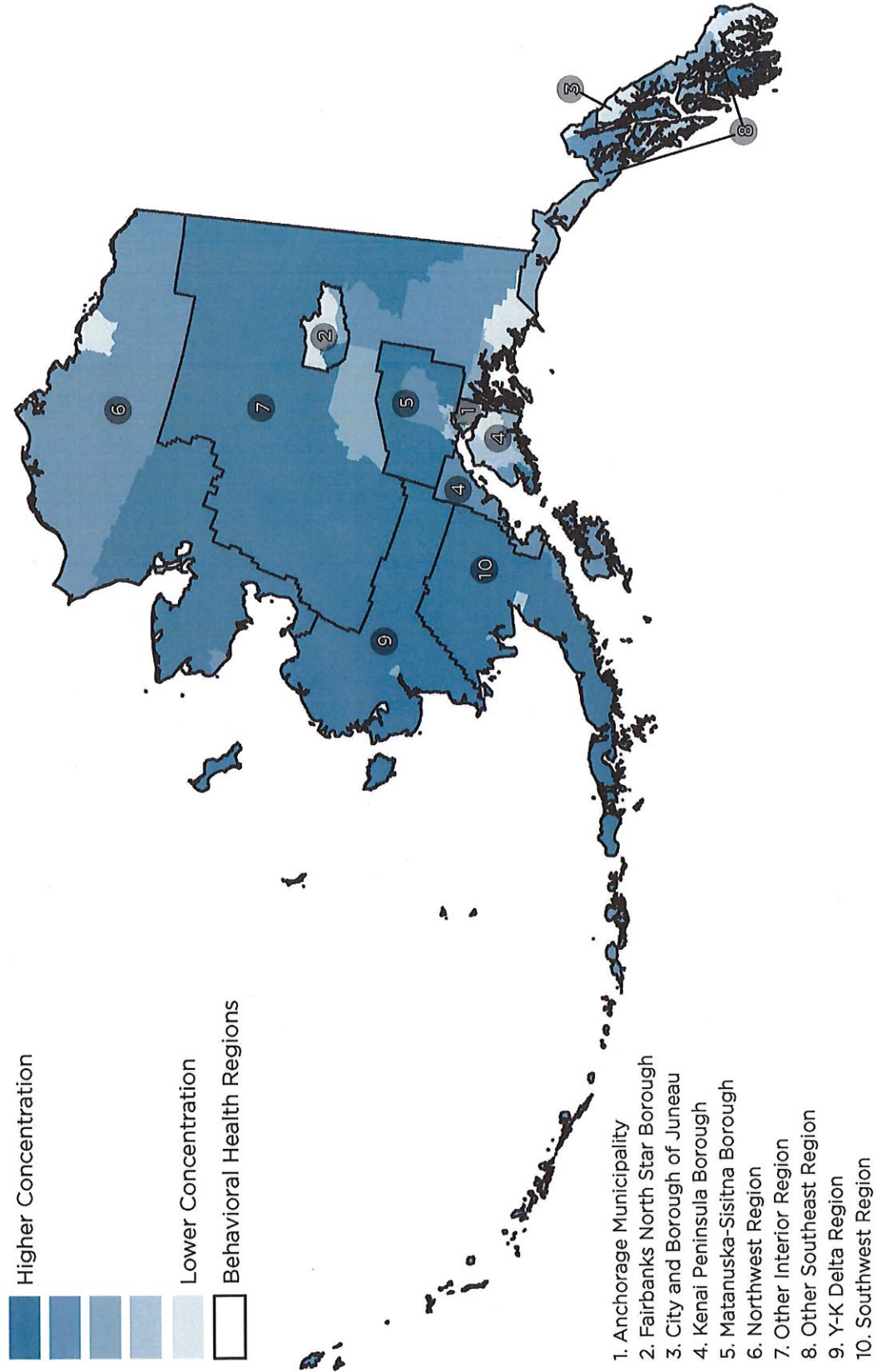


FIGURE 3:
INDIVIDUALS AT OR BELOW
200% OF THE POVERTY LEVEL
BY CENSUS TRACT



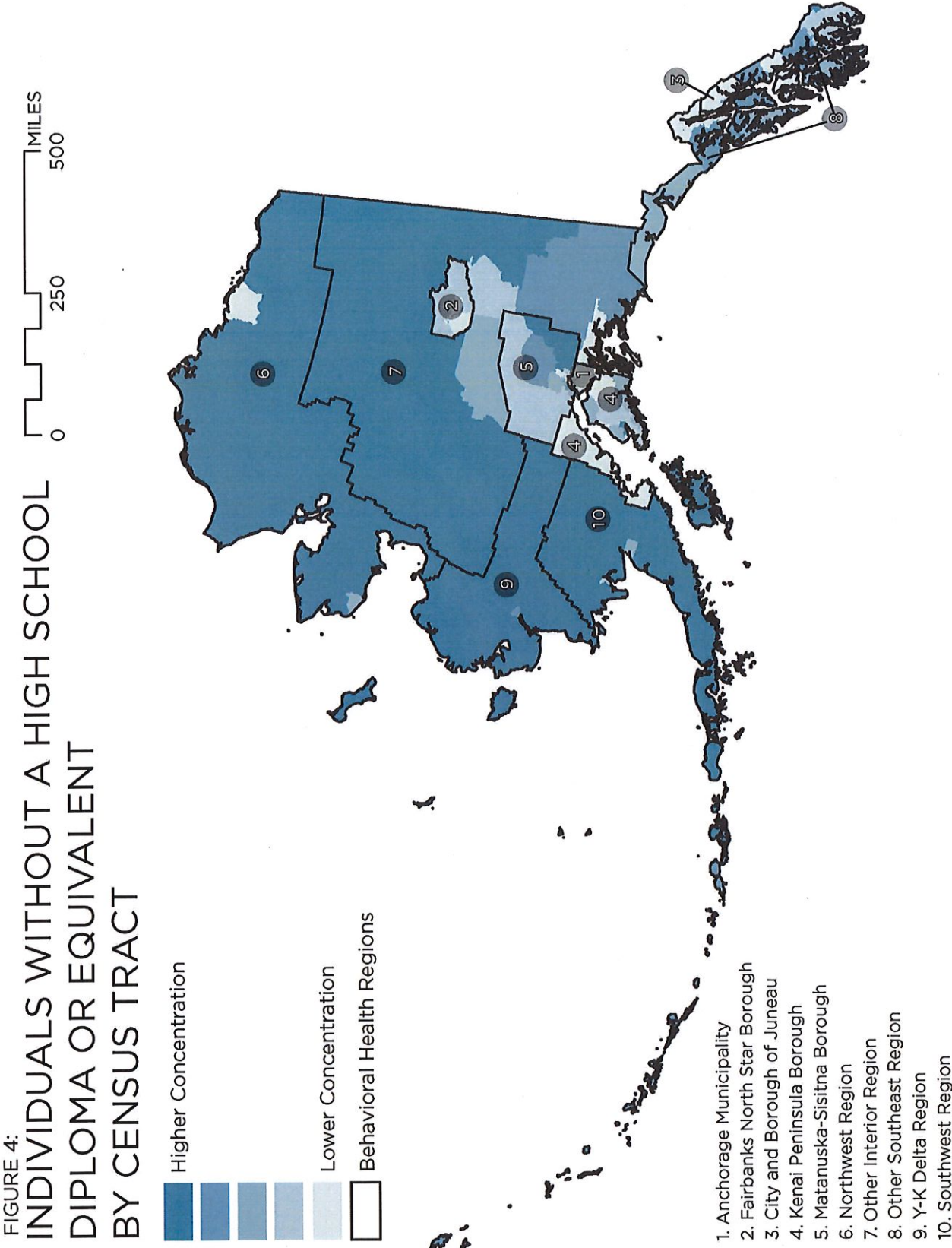


FIGURE 5:

NON-WHITE POPULATIONS BY CENSUS TRACT

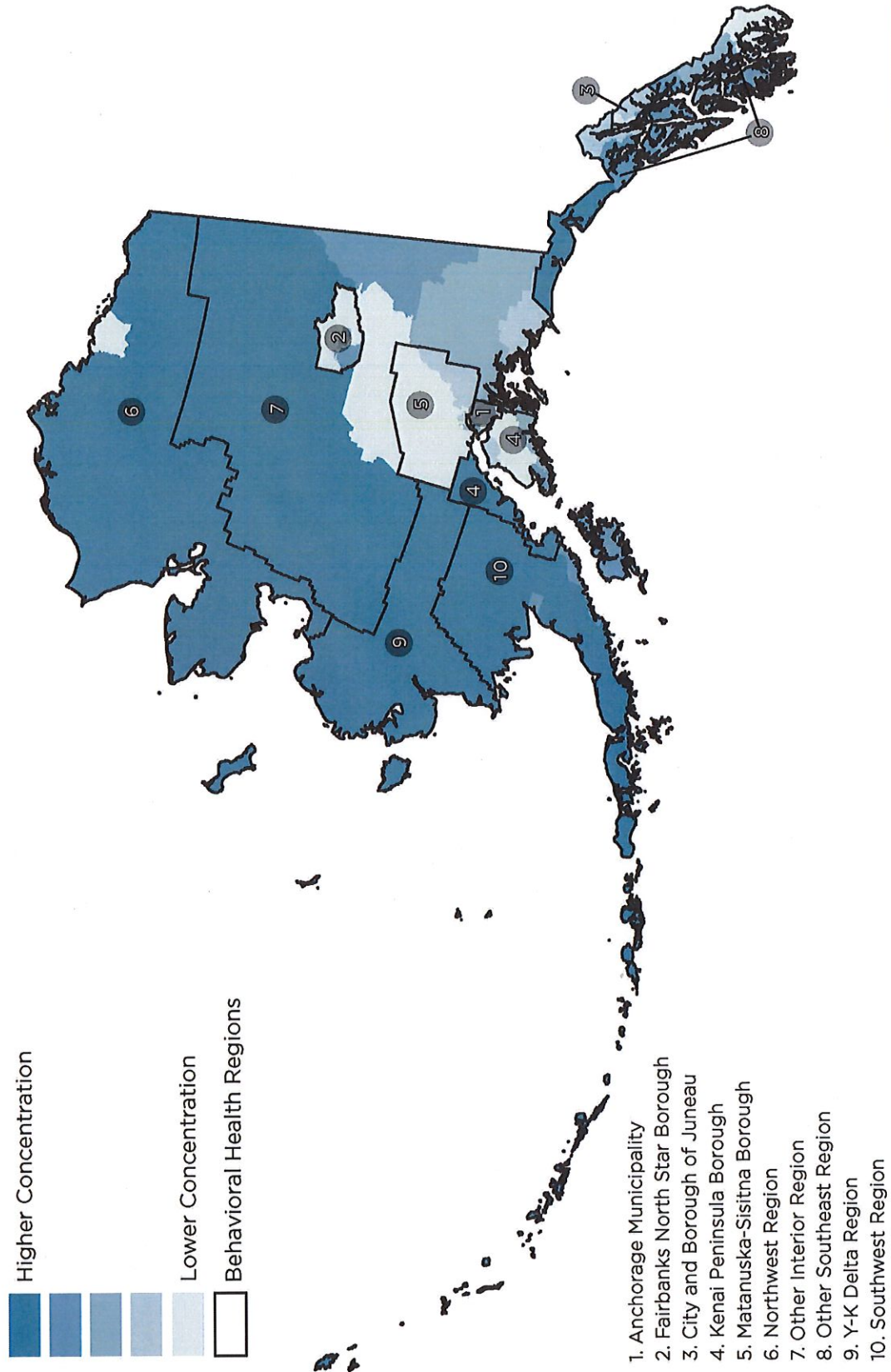
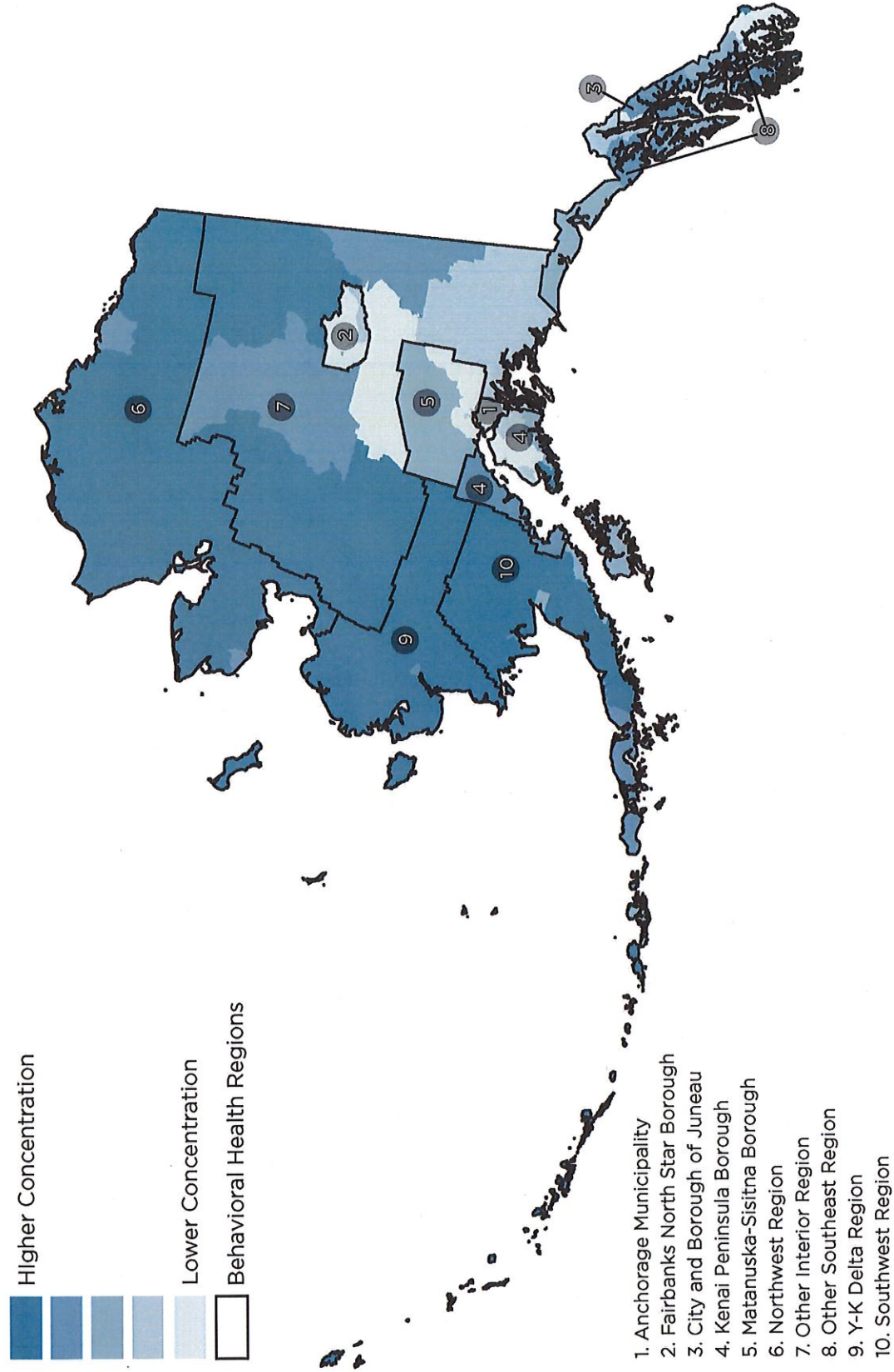


FIGURE 6:

NO ACCESS TO A MOTOR VEHICLE BY CENSUS TRACT



··· Appendix D

Economic Benefit Estimates





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APPENDIX D

To: Alaska DOT&PF

From: Alta Planning + Design

Date: October 30, 2017

Re: Alaska Statewide Bicycle and Pedestrian Master Plan | Economic Benefits (Task 5C)

Introduction

There is increasing recognition of the benefits of walking and bicycling including improved community access and connectivity, reduced dependence on fossil fuels, reduced vehicle emissions, and active, healthier communities. However, the way these benefits are accounted for are often less tangible and are more qualitative in nature. Indeed, bicycling and walking infrastructure can be difficult to justify when the majority of people drive to everyday destinations, or do not see the immediate benefits of these transportation modes. In order to make the case for investing in bicycle and pedestrian infrastructure, communities increasingly seek methods to quantify these benefits.

Often the most convincing case for these investments is made by quantifying the economic value of these benefits. Quantifying the economic benefits of walking and bicycling in dollars, with real data, enables transportation policy makers and planners to integrate benefit-cost discussions into the decision-making process, and ultimately leads to a more informed discussion about the cost-effectiveness of transportation investments. The data is not only an effective framing tool – it allows communities to be more competitive in pursuing grant funding, and may lead to creative new partnerships and initiatives.

The main purpose of this analysis is to set the stage for a more informed policy discussion on how to best invest in bicycle/pedestrian infrastructure across the state.

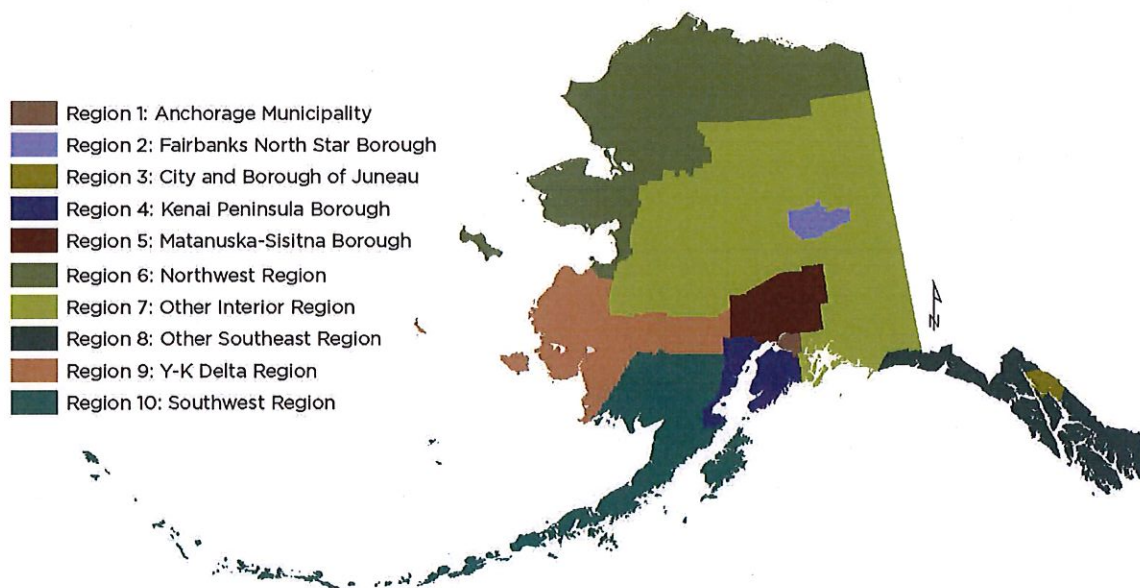
Methodology

To estimate the potential transportation, environmental, health, and economic benefits of walking and bicycling, the first step typically consists of estimating current levels of walking and bicycling activity. This is followed by projecting the benefits associated with an increase in walking and bicycling. In other words, transportation practitioners seek to answer three primary questions:

- What are the current levels of walking and bicycling activity at the regional level?
- Based on existing activity, what are the future goals for walking and bicycling?
- What are the anticipated economic benefits associated with these goals?

Study Areas

The state was divided into ten regions to provide a more refined, geographically appropriate, and usable scale for goal-setting and benefits estimation. The figure below depicts the geographic boundaries of the ten regions defined for this analysis (See Appendix A for a breakdown of Alaskan Boroughs contained within each region). The regions were originally designated by the Alaska Department of Health and Social Services to conduct the statewide behavioral health systems assessment, and represent geographies with a population of 20,000 people or greater. These geographic groupings were also used to provide a consistent approach for other analyses performed for this master planning effort.



Establishing Existing Walking and Bicycling Activity

Embarking on this task, the Project Team pursued background data and other relevant information available at the regional and statewide level. This approach facilitates a consistent analysis and enables decision-makers to more accurately identify trends while drawing regional comparisons. At the outset of this task, the Team contacted stakeholders throughout Alaska with the goal of obtaining transportation data reflective of the unique environments found throughout the state, particularly in smaller communities without roadways where other transportation modes (e.g., ATVs, snow machines, boats, cross-country skiing) are prevalent. However, this data was either unavailable in a format that could be used for regionwide or statewide analyses, or it was lacking altogether. As an alternative, the Project Team consulted the U.S. Census Bureau's American Community Survey (ACS), which provides a more-consistent data baseline, and is inclusive of communities throughout Alaska.

According to the ACS, Alaska currently ranks among the top five states in terms of the percentage of residents bicycling and walking to work, due in part to many factors such as relatively compact development in rural areas (making walking and bicycling more conducive for short trips), and the absence of conventional roads and

highways in many communities (thereby increasing reliance on walking/bicycling). Indeed, most rural communities are off the highway network, and roads between cities, towns and villages are limited. The ACS's five-year estimates were used to estimate existing walking and bicycling activity levels. This data set represents the most current and reliable sample of travel data for each borough and region, and offers the most widely reported and consistent coverage across the state. This particular data set reports "journey to work" (also known as commute trip) data, which serves as the starting point for the analysis. Various multipliers were derived from National Household Travel Survey and National Center for Safe Routes to School data to account for school and college trips, utilitarian trips, social/recreational trips and other non-commute trips. Table 1 presents the existing walking and bicycling commute mode shares for each region.

Estimating Future Walking and Bicycling Benefits

As a preliminary step toward answering the second question, the Project Team developed walking and bicycling commute mode share goals for each region. "Mode share" refers to the proportion of employed residents whose commute trips are primarily made by a particular transportation mode. Goals were based in part on existing activity levels and previous regional and local planning efforts, and generally align with the Alaska Statewide Bicycle and Pedestrian Master Plan's 20-year planning horizon. Because the ten regions each have differing geographies, demographics, and current walking/bicycling commute mode shares, the goals were adjusted accordingly. These goals were then refined by the Project Team based on feedback provided by the Alaska Statewide Bicycle and Pedestrian Master Plan Steering Committee. This ensured that the regional goals established were aspirational, yet appropriate and achievable given the characteristics of each region.

Bicycling and Walking Commute Mode Share Goals

Stated earlier, the purpose of this effort is to attempt to assign a dollar amount to the various benefits attributed to walking and bicycling, based on a future level of walking and bicycling activity. In other words, it can be argued that if walking and bicycling activity increased to X% of trips in the future, then the benefits could potentially be represented in \$Y. "X%" represents the "commute mode share goal."

Table 1 presents existing regional walking and bicycling commute mode shares for the ten regions, along with future regional mode share goals. For purposes of the broader analysis, Regions 1 through 5 were generally considered more urban with relatively higher population densities, while Regions 6 through 10 were considered more rural in character with relatively lower population densities. The Project Team understands that exceptions to the "urban" and "rural" classifications exist within each individual region (e.g., mix of urban and rural communities in Regions 2 through 5, and the higher proportion of Alaskans residing in Region 1). It is understood that localized mode share goals could be higher or lower, while the proposed region-wide goals paint an aggregate, broader-scale picture.

For all ten regions, the bicycle commute mode share goals were set at approximately twice the existing rate. For the walk commute mode share goals, more urbanized regions had goals set at roughly twice the existing rate, while more rural regions (with significantly higher existing walk mode shares) were assigned goals at approximately 1.25 times the existing rate. Mode share goals for the regions encompassing multiple boroughs were projected by averaging the commute mode shares for each borough and weighting by the total working population size.

The Project Team recognizes that individual localities may substantially vary in terms of existing transportation facilities, require differing levels of support and investment to increase walking and bicycling, and should consequently develop their own respective mode share goals as part of a locally-based planning process.

At the statewide level, a **statewide bicycle commute mode share goal of 2%** (roughly twice the existing 1% mode share) and a **statewide walk commute mode share goal of 13.4%** (nearly twice the existing 7.8% mode share) would achieve the same overall benefits as derived by the individual regions.

Table 1. Regional Walking and Bicycling Commute Mode Shares and Mode Share Goals

| | Bicycling | | Walking | | Comments |
|---|---|---------------------------------------|---|---------------------------------------|--|
| | Existing Regional Bike Commute Mode Share | Regional Bike Commute Mode Share Goal | Existing Regional Walk Commute Mode share | Regional Walk Commute Mode Share Goal | |
| Region 1: Anchorage Municipality | 1.2% | 2.4% | 3.1% | 6.1% | Double walk and bike commute mode share for Urban Regions over 20 years |
| Region 2: Fairbanks North Star Borough | 1.3% | 2.5% | 3.6% | 7.1% | Double walk and bike commute mode share for Urban Regions over 20 years |
| Region 3: City and Borough of Juneau | 1.3% | 2.5% | 5.8% | 11.6% | Double walk and bike commute mode share for Urban Regions over 20 years |
| Region 4: Kenai Peninsula Borough | 0.5% | 1.0% | 5.9% | 11.8% | Double walk and bike commute mode share for Urban Regions over 20 years |
| Region 5: Matanuska-Susitna Borough | 0.2% | 0.3% | 1.9% | 3.9% | Double walk and bike commute mode share for Urban Regions over 20 years |
| Region 6: Northwest Region | 0.4% | 0.8% | 39.6% | 49.5% | Double bike mode share for rural regions over 20 years, Increase walk mode shares by 25% over 20 years |
| Region 7: Other Interior Region | 0.3% | 0.6% | 20.2% | 25.2% | Double bike mode share for rural regions over 20 years, Increase walk modes hares by 25% over 20 years |
| Region 8: Other Southeast Region - Northern | 2.2% | 4.4% | 16.4% | 20.5% | Double bike mode share for rural regions over 20 years, Increase walk mode shares by 25% over 20 years |
| Region 9: Y-K Delta Region | 0.4% | 0.7% | 36.7% | 45.8% | Double bike mode share for rural regions over 20 years, Increase walk mode shares by 25% over 20 years |
| Region 10: Southwest Region | 0.5% | 0.9% | 29.6% | 37.0% | Double bike mode share for rural regions over 20 years, Increase walk mode shares by 25% over 20 years |

Projected Benefits

The sections below describe the potential economic benefits of implementing the Alaska Statewide Bicycle and Pedestrian Master Plan, specifically relating to health, transportation, and the environment. The memo concludes with an estimation of total economic benefits. While the potential benefits in each section below are expressed in aggregate form, they should be considered relative order-of-magnitude values, and could be further refined in the future as more information and data becomes available.

Health Benefits

A growing body of research documents the active-living benefits associated with walking and bicycling, including improved mental health, improved academic performance, strengthened connection to nature and the outdoors, and the cultivation of a sense of place. While the monetary value of many of these benefits is difficult to measure, other more direct economic benefits can be accounted for. These include the economic benefits accruing from increased physical activity levels, and resulting health care cost reductions.

Designing and constructing a connected network of safe and accessible walking and bicycling facilities within and across each region will provide communities with more active transportation options and opportunities to increase physical activity. Well-designed walkways, bikeways and off-street trails can encourage residents and visitors alike to make more of their work, utilitarian, social and recreational trips by walking or biking, and thereby help to meet the Centers for Disease Control and Prevention's recommended daily hours of physical activity. Here we quantify the estimated increase in walking and bicycling trips and miles travelled stemming from each region's mode share goal. These metrics translate to new walking and bicycling activity relative to the reported physical inactivity rates of each borough. Unit cost multipliers for health care cost savings were then applied to the estimated change in physical activity. The dollar amounts presented in Table 2 represent the total health care costs saved as a result of people meeting the recommended physical activity levels due to increased walking and bicycling.

If all ten regions attained their respective walk mode share goals, this would result in over **93 million** more walking trips statewide, **28.7 million** additional miles travelled by walking, an **increase of 10%** of Alaskans meeting recommended physical activity levels per year, and amount to nearly **\$3.25 million per year** in health care cost savings. Table 2 below presents the regional and statewide estimates for these health-related walking benefits.

Table 2. Regional and Statewide Health-Related Walking Benefits

| Regional Health Benefits of Walking | | | | |
|---|-------------------|-------------------|---|---------------------------------|
| Region | Annual Trips | Annual Miles | Percentage Increase of Regional Population Meeting Recommended Physical Activity Levels | Annual Health Care Cost Savings |
| Region 1: Anchorage Municipality | 25,019,000 | 7,364,000 | 6.3% | \$963,000 |
| Region 2: Fairbanks North Star Borough | 9,322,000 | 2,768,000 | 7.1% | \$378,000 |
| Region 3: City and Borough of Juneau | 4,961,000 | 1,548,000 | 12.2% | \$164,000 |
| Region 4: Kenai Peninsula Borough | 7,196,000 | 2,227,000 | 10.0% | \$239,000 |
| Region 5: Matanuska-Susitna Borough | 4,466,000 | 1,169,000 | 3.1% | \$164,000 |
| Region 6: Northwest Region | 10,602,000 | 3,449,000 | 32.5% | \$337,000 |
| Region 7: Other Interior Region | 5,073,000 | 1,636,000 | 17.2% | \$164,000 |
| Region 8: Other Southeast Region - Northern | 7,750,000 | 2,502,000 | 15.7% | \$249,000 |
| Region 9: Y-K Delta Region | 7,011,000 | 2,260,000 | 22.5% | \$220,000 |
| Region 10: Southwest Region | 11,602,000 | 3,779,000 | 31.9% | \$370,000 |
| Annual Statewide Benefits | 93,002,000 | 28,702,000 | 10.0% | \$3,248,000 |

If each region were to attain its bicycle mode share goal, this would lead to approximately **13.9 million** additional annual trips statewide by bike, and amount to over **18.8 million** additional miles travelled by bike per year. These additional trips would amount to a **2% increase** in the number of Alaskans meeting the recommended physical activity levels per year, and result in approximately **\$655,000 per year** in health care cost savings. Table 3 summarizes the regional and statewide estimates for these health-related bicycling benefits.

Table 3. Regional and Statewide Health-Related Bicycling Benefits

| Regional Health Benefits of Bicycling | | | | |
|---|-------------------|-------------------|--|---------------------------------|
| Region | Annual Trips | Annual Miles | Percentage Increase of Population Meeting Recommended Physical Activity Levels | Annual Health Care Cost Savings |
| Region 1: Anchorage Municipality | 7,401,000 | 10,101,000 | 2.6% | \$345,000 |
| Region 2: Fairbanks North Star Borough | 2,473,000 | 3,358,000 | 2.6% | \$122,000 |
| Region 3: City and Borough of Juneau | 840,000 | 1,158,000 | 2.7% | \$36,000 |
| Region 4: Kenai Peninsula Borough | 512,000 | 669,000 | 0.9% | \$24,000 |
| Region 5: Matanuska-Susitna Borough | 302,000 | 305,000 | 0.2% | \$21,000 |
| Region 6: Northwest Region | 185,000 | 232,000 | 0.6% | \$9,000 |
| Region 7: Other Interior Region | 131,000 | 158,000 | 0.5% | \$8,000 |
| Region 8: Other Southeast Region - Northern | 1,669,000 | 2,332,000 | 4.4% | \$69,000 |
| Region 9: Y-K Delta Region | 130,000 | 153,000 | 0.4% | \$6,000 |
| Region 10: Southwest Region | 301,000 | 395,000 | 1.0% | \$15,000 |
| Annual Statewide Benefits | 13,944,000 | 18,861,000 | 2.0% | \$655,000 |

Transportation Benefits

Walking and bicycling facilities provide people with more travel options, and the freedom to decide how to get from Point A to Point B. This does not mean that Alaskans are going to completely give up other transportation means altogether. It simply assumes people will pick the most sensible, convenient and safe option for their daily trips when those options are available. In many cases, Alaskans are already walking and bicycling in places where transportation infrastructure does not currently exist or is less than ideal, but new or improved facilities would allow them to travel more safely and efficiently. The transportation benefits of walking and bicycling can be quantified in terms of the cost savings resulting from reduced congestion, reduced road maintenance, vehicle crashes avoided, and household vehicle operation cost savings. All of these metrics are relative to the reduction in vehicle miles travelled. Unit multipliers corresponding to the monetary value (per vehicle mile travelled) for each of these metrics were then applied to the number of vehicle miles avoided to estimate the economic benefits of each metric. Transportation benefits estimates should be considered conservative estimates due to the fact that vehicle trip replacement calculations typically do not differentiate between varying fuel efficiency levels (e.g., replacing a trip in a newer, fuel-efficient vehicle versus replacing a trip in an older, less fuel-efficient car), and do not account for trips replaced on other conveyances such as ATVs, snow machines or boats.

Table 4 (on the following page) summarizes the regional and statewide transportation benefits of walking. An annual total reduction of **25.8 million** vehicle miles travelled per year would result if all ten regions met their respective walk mode share goals. This would amount to **\$1.8 million** in reduced traffic congestion costs per year, **\$12.8 million** in reduced vehicle collision costs per year, nearly **\$3.9 million** in reduced road maintenance costs per year, and about **\$14.7 million** in household vehicle operation cost savings per year.

Table 4. Regional and Statewide Transportation Benefits Associated with Walking

| Regional Transportation Benefits of Walking | | | | | |
|---|--------------------|----------------------------------|-----------------------------|--------------------------------|--|
| Region | Annual VMT Reduced | Reduced Traffic Congestion Costs | Reduced Vehicle Crash Costs | Reduced Road Maintenance Costs | Household Vehicle Operation Cost Savings |
| Region 1: Anchorage Municipality | 7,846,000 | \$549,000 | \$3,923,000 | \$1,177,000 | \$4,473,000 |
| Region 2: Fairbanks North Star Borough | 2,951,000 | \$206,000 | \$1,475,000 | \$442,000 | \$1,682,000 |
| Region 3: City and Borough of Juneau | 1,534,000 | \$108,000 | \$767,000 | \$230,000 | \$875,000 |
| Region 4: Kenai Peninsula Borough | 2,113,000 | \$148,000 | \$1,056,000 | \$317,000 | \$1,204,000 |
| Region 5: Matanuska-Susitna Borough | 1,281,000 | \$89,000 | \$641,000 | \$192,000 | \$730,000 |
| Region 6: Northwest Region | 1,883,000 | \$132,000 | \$942,000 | \$283,000 | \$1,074,000 |
| Region 7: Other Interior Region | 1,394,000 | \$98,000 | \$697,000 | \$209,000 | \$794,000 |
| Region 8: Other Southeast Region - Northern | 2,285,000 | \$160,000 | \$1,142,000 | \$343,000 | \$1,302,000 |
| Region 9: Y-K Delta Region | 1,128,000 | \$79,000 | \$564,000 | \$170,000 | \$643,000 |
| Region 10: Southwest Region | 3,352,000 | \$235,000 | \$1,676,000 | \$502,000 | \$1,911,000 |
| Annual Statewide Benefits | 25,767,000 | \$1,804,000 | \$12,883,000 | \$3,865,000 | \$14,688,000 |

The bicycling transportation benefits would also amount to substantial VMT reduction and cost savings. If all ten regions met their respective bicycle mode share goals, this would lead to an estimated annual reduction of **12.2 million** vehicle miles travelled, **\$857,000** in reduced traffic congestion costs per year, **\$6.1 million** in vehicle crash costs saved per year, over **\$1.8 million** in reduced road maintenance costs per year, and nearly **\$7 million** in annual household vehicle operations cost savings. Table 5 presents the regional and statewide estimates for each of these categories.

Table 5. Regional and Statewide Transportation Benefits Associated with Bicycling

| Regional Transportation Benefits of Bicycling | | | | | |
|---|--------------------|----------------------------------|-----------------------------|--------------------------------|--|
| Region | Annual VMT Reduced | Reduced Traffic Congestion Costs | Reduced Vehicle Crash Costs | Reduced Road Maintenance Costs | Household Vehicle Operation Cost Savings |
| Region 1: Anchorage Municipality | 6,933,000 | \$486,000 | \$3,466,000 | \$1,040,000 | \$3,952,000 |
| Region 2: Fairbanks North Star Borough | 2,300,000 | \$161,000 | \$1,149,000 | \$345,000 | \$1,310,000 |
| Region 3: City and Borough of Juneau | 750,000 | \$52,000 | \$376,000 | \$112,000 | \$428,000 |
| Region 4: Kenai Peninsula Borough | 415,000 | \$29,000 | \$207,000 | \$62,000 | \$237,000 |
| Region 5: Matanuska-Susitna Borough | 217,000 | \$15,000 | \$109,000 | \$32,000 | \$124,000 |
| Region 6: Northwest Region | 59,000 | \$4,000 | \$29,000 | \$9,000 | \$33,000 |
| Region 7: Other Interior Region | 79,000 | \$5,000 | \$39,000 | \$12,000 | \$45,000 |
| Region 8: Other Southeast Region - Northern | 1,273,000 | \$89,000 | \$637,000 | \$191,000 | \$725,000 |
| Region 9: Y-K Delta Region | 40,000 | \$3,000 | \$20,000 | \$6,000 | \$23,000 |
| Region 10: Southwest Region | 178,000 | \$13,000 | \$90,000 | \$27,000 | \$102,000 |
| Annual Additional Statewide Benefits | 12,244,000 | \$857,000 | \$6,122,000 | \$1,836,000 | \$6,979,000 |

Environmental Benefits

One of the most direct environmental benefits of walking and bicycling is fact that these transportation modes produce zero emissions. Other environmental benefits include a relatively lower carbon footprint (due to reduced manufacturing/production and life-cycle impacts), but these are considered negligible for purposes of this analysis. The change in carbon dioxide, hydrocarbons, nitrous oxides, carbon monoxide, and particulate matter as a result of increased walking and bicycling activity can be estimated by analyzing the vehicle miles travelled reduced. The unit weight of each air emission type is factored with a multiplier derived from recent studies. These multipliers correspond to the dollar amount it would cost to mitigate the air pollution or the cost equivalent of the damage caused by that pollutant to the environment.

The total weight of carbon dioxide emissions reduced by increased walking levels across all regions is estimated to be approximately **21 million pounds** per year. The total weight of the other air pollutants listed above is estimated at **835,000 pounds** per year. The total emissions cost reduction for all regions adds up to about **\$862,000** per year. Table 6 presents the regional and statewide environmental benefits attributed to increased walking activity and reduced emissions.

Table 6. Regional and Statewide Environmental Benefits Associated with Walking

| Regional Environmental Benefits of Walking | | | |
|---|--------------------------------|---------------------------------------|-------------------------------------|
| Region | CO2 Emissions Reductions (lbs) | Other Vehicle Emissions Reduced (lbs) | Total Vehicle Emission Cost Reduced |
| Region 1: Anchorage Municipality | 6,383,001 | 254,000 | \$262,000 |
| Region 2: Fairbanks North Star Borough | 2,400,740 | 96,000 | \$99,000 |
| Region 3: City and Borough of Juneau | 1,248,008 | 50,000 | \$52,000 |
| Region 4: Kenai Peninsula Borough | 1,718,491 | 68,000 | \$70,000 |
| Region 5: Matanuska-Susitna Borough | 1,041,932 | 41,000 | \$43,000 |
| Region 6: Northwest Region | 1,532,191 | 61,000 | \$63,000 |
| Region 7: Other Interior Region | 1,134,291 | 46,000 | \$47,000 |
| Region 8: Other Southeast Region - Northern | 1,858,749 | 74,000 | \$76,000 |
| Region 9: Y-K Delta Region | 917,673 | 37,000 | \$37,000 |
| Region 10: Southwest Region | 2,726,964 | 108,000 | \$113,000 |
| Annual Statewide Benefits | 20,962,041 | 835,000 | \$862,000 |

Similar to VMT reductions associated with increased walking activity, so too are the environmental benefits attributed to bicycling. This amounts to a lower, yet still substantial statewide total of nearly **10 million pounds** of carbon dioxide reduced per year, approximately **400,000 pounds** of other air pollutants reduced per year, and a total of around **\$410,000** of vehicle emissions costs saved per year.

Table 7. Regional and Statewide Environmental Benefits Associated with Bicycling

| Regional Environmental Benefits of Bicycling | | | |
|--|--------------------------------|---------------------------------------|-------------------------------------|
| Region | CO2 Emissions Reductions (lbs) | Other Vehicle Emissions Reduced (lbs) | Total Vehicle Emission Cost Reduced |
| Region 1: Anchorage Municipality | 5,639,461 | 225,000 | \$232,000 |
| Region 2: Fairbanks North Star Borough | 683,001 | 74,000 | \$77,000 |
| Region 3: City and Borough of Juneau | 610,718 | 25,000 | \$25,000 |
| Region 4: Kenai Peninsula Borough | 337,178 | 14,000 | \$14,000 |
| Region 5: Matanuska-Susitna Borough | 177,034 | 7,000 | \$8,000 |
| Region 6: Northwest Region | 48,155 | 2,000 | \$2,000 |
| Region 7: Other Interior Region | 64,440 | 2,000 | \$2,000 |
| Region 8: Other Southeast Region - Northern | 1,035,596 | 42,000 | \$42,000 |
| Region 9: Y-K Delta Region | 32,693 | 2,000 | \$2,000 |
| Region 10: Southwest Region | 145,265 | 6,000 | \$6,000 |
| Annual Statewide Benefits | 8,773,541 | 399,000 | \$410,000 |

Aggregate Economic Benefits

Tables 8 and 9 summarize the total regional and statewide health, transportation, and environmental benefits anticipated as a result of increased walking and bicycling activity in Alaska, based on respective regional and statewide mode share goals. The total economic benefits associated with walking are estimated at approximately \$37 million per year, while increased bicycling would derive an estimated \$17 million in economic benefits annually.

As suggested earlier, these totals can be considered conservative estimates, because they primarily account for the direct benefits that can be quantified in monetary terms. Additionally, these totals do not fully account for localized aggregate health, transportation and environmental impacts of complete walking and bicycling networks. This implies that statewide walking and bicycling economic benefits, when fully accounted for, may well exceed the sum of the individual regional and local benefits presented here.

Table 8. Total Health, Transportation, and Health Economic Benefits Associated with Walking

| Total Regional and Statewide Economic Benefits of Walking | | | | |
|---|--------------------|-------------------------|------------------------|---------------------|
| Region | Health Benefits | Transportation Benefits | Environmental Benefits | Total Benefits |
| Region 1: Anchorage Municipality | \$963,000 | \$10,122,000 | \$262,000 | \$11,347,000 |
| Region 2: Fairbanks North Star Borough | \$378,000 | \$3,805,000 | \$99,000 | \$4,282,000 |
| Region 3: City and Borough of Juneau | \$164,000 | \$1,980,000 | \$52,000 | \$2,196,000 |
| Region 4: Kenai Peninsula Borough | \$239,000 | \$2,725,000 | \$70,000 | \$3,034,000 |
| Region 5: Matanuska-Susitna Borough | \$164,000 | \$1,652,000 | \$43,000 | \$1,859,000 |
| Region 6: Northwest Region | \$337,000 | \$2,431,000 | \$63,000 | \$2,831,000 |
| Region 7: Other Interior Region | \$164,000 | \$1,798,000 | \$47,000 | \$2,009,000 |
| Region 8: Other Southeast Region - Northern | \$249,000 | \$2,947,000 | \$76,000 | \$3,272,000 |
| Region 9: Y-K Delta Region | \$220,000 | \$1,456,000 | \$37,000 | \$1,713,000 |
| Region 10: Southwest Region | \$370,000 | \$4,324,000 | \$113,000 | \$4,807,000 |
| Annual Additional Statewide Benefits | \$3,248,000 | \$33,240,000 | \$862,000 | \$37,350,000 |

Table 9 Total Regional and Statewide Health, Transportation, and Health Economic Benefits Associated with Bicycling

| Total Regional and Statewide Economic Benefits of Bicycling | | | | |
|---|------------------|-------------------------|------------------------|---------------------|
| Region | Health Benefits | Transportation Benefits | Environmental Benefits | Total Benefits |
| Region 1: Anchorage Municipality | \$345,000 | \$8,944,000 | \$232,000 | \$9,521,000 |
| Region 2: Fairbanks North Star Borough | \$122,000 | \$2,965,000 | \$77,000 | \$3,164,000 |
| Region 3: City and Borough of Juneau | \$36,000 | \$968,000 | \$25,000 | \$1,029,000 |
| Region 4: Kenai Peninsula Borough | \$24,000 | \$535,000 | \$14,000 | \$573,000 |
| Region 5: Matanuska-Susitna Borough | \$21,000 | \$280,000 | \$8,000 | \$309,000 |
| Region 6: Northwest Region | \$9,000 | \$75,000 | \$2,000 | \$86,000 |
| Region 7: Other Interior Region | \$8,000 | \$101,000 | \$2,000 | \$111,000 |
| Region 8: Other Southeast Region - Northern | \$69,000 | \$1,642,000 | \$42,000 | \$1,753,000 |
| Region 9: Y-K Delta Region | \$6,000 | \$52,000 | \$2,000 | \$60,000 |
| Region 10: Southwest Region | \$15,000 | \$232,000 | \$6,000 | \$253,000 |
| Annual Additional Statewide Benefits | \$655,000 | \$15,794,000 | \$410,000 | \$16,859,000 |

Appendix A

Behavioral Health Systems Regions Boroughs/Census Areas included in Region

- Region 1 - Anchorage Municipality
 - Anchorage Municipality (02020)
- Region 2 - Fairbanks North Star Borough
 - Fairbanks North Star Borough (02090)
- Region 3 - City and Borough of Juneau
 - City and Borough of Juneau (02110)
- Region 4 - Kenai Peninsula Borough
 - Kenai Peninsula Borough (02122)
- Region 5 - Matanuska-Susitna Borough
 - Matanuska-Susitna Borough (02170)
- Region 6 - Northwest Region
 - Nome Census Area (02180)
 - North Slope Borough (02185)
 - Northwest Arctic Borough (02188)
- Region 7 - Other Interior Region
 - Denali Borough (02068)
 - Southeast Fairbanks Census Area (02240)
 - Valdez-Cordova Census Area (02261)
 - Yukon-Koyukuk Census Area (02290)
- Region 8 - Other Southeast Region - Northern
 - Haines Borough (02100)
 - Hoonah-Angoon Census Area (02105)
 - Petersburg Borough (02195)
 - Sitka City and Borough (02220)
 - Skagway Municipality (02230)
 - Wrangell City and Borough (02275)
 - Yakutat City and Borough (02282)
 - Ketchikan Gateway Borough (02130)
 - Prince of Wales-Hyder Census Area (02198)
- Region 9 - Y-K Delta Region
 - Bethel Census Area (02050)
 - Kusilvak Census Area (02158)
- Region 10 - Southwest Region
 - Aleutians East Borough (02013)
 - Aleutians West Census Area (02016)
 - Bristol Bay Borough (02060)
 - Dillingham Census Area (02070)
 - Kodiak Island Borough (02150)
 - Lake and Peninsula Borough (02164)

· · · Appendix E

Alignment of ASATP Vision,
Goal Areas and Objectives
with LRTP



How the Alaska Statewide Active Transportation Master Plan Will Support the Achievement of the Vision, Goals and Policies in the Alaska Statewide LRTP

Table E.1 details how the Active Transportation Master Plan's goals and objectives will support the achievement of the LRTP goals.

Table E.1: ASATP Goal Areas and Objectives that will support the achievement of the Alaska LRTP Goals

| LRTP Goal | ASATP Goal Area/Objective |
|---|--|
| New Facilities: Develop new capacity and connections that cost-effectively address transportation system performance. | Goal Area Four: Connectivity <u>Objectives:</u> 1. Identify and address gaps in the non-motorized transportation network, including where facilities need repair to facilitate a connection or for access. 4. Identify and encourage multi-modal transportation opportunities. |
| Modernization: Make the existing transportation system better and safer through transportation system improvements that support productivity, improve reliability, and reduce safety risks to improve performance of the system. | Goal Area One: Safety <u>Objectives:</u> 1.1 Reduce the number and severity of conflicts between people bicycling, walking and driving. 1.2 Design the walking and bicycling network, including roads, to enhance safety for bicycles and pedestrians using current state of the practice approaches. 1.3 Integrate design criteria that incorporate best practices into local, regional and statewide design guidance documents and the Alaska Highway Preconstruction Manual (HPM). 1.4 Consider provisions for the safer movement of active transportation on roadway segments that are being reconstructed or rehabilitated (except for curb-to-curb mill and pave projects). 1.5 Improve facilities and wayfinding throughout Alaska to encourage walking and bicycling as a primary transportation mode. Goal Area Three: Maintenance and System Preservation <u>Objectives:</u> 3.1 Provide safer and more convenient active transportation provisions during construction activities. 3.2 Encourage coordination between transportation organizations to improve maintenance, including winter snow removal on active transportation facilities. 3.3 Encourage maintenance of facilities to be a key consideration in the design of active transportation facilities. |
| System Preservation: Manage the Alaska Transportation System to meet infrastructure condition performance targets and acceptable levels of service for all modes of transportation. | Goal Area One: Safety <u>Objectives:</u> 1.1 Reduce the number and severity of conflicts between people bicycling, walking and driving. |

| LRTP Goal | ASATP Goal Area/Objective |
|--|--|
| <p>System Management and Operations: Manage and operate the system to improve operational efficiency and safety.</p> | <p>Goal Area One: Safety <u>Objectives:</u> 1.1 Reduce the number and severity of conflicts between people bicycling, walking and driving.</p> <p>Goal Area Three: Maintenance and System Preservation <u>Objectives:</u> 3.1 Provide safer and more convenient active transportation provisions during construction activities. 3.2 Encourage coordination between transportation organizations to improve maintenance, including winter snow removal on active transportation facilities.</p> |
| <p>Economic Development: Promote and support economic development by ensuring safe, efficient, and reliable access to local, national, and international markets for Alaska's people, goods, and resources, and for freight-related activity critical to the state's economy.</p> | <p>Goal Area Five: Economic Development <u>Objectives:</u> 5.2 Establish comfortable and safer active transportation connections to activity centers. 5.3 Increase awareness of Alaska's active transportation network. 5.4 Create transportation systems that encourage natural movement for daily activities and encourage active transportation, in conjunction with broader community and infrastructure development planning.</p> |
| <p>Safety and Security: Improve transportation system safety and security.</p> | <p>Goal Area One: Safety <u>Objectives:</u> 1.1 Reduce the number and severity of conflicts between people bicycling, walking and driving. 1.2 Design the active transportation network, including roads, to enhance safety for non-motorized users using current state of the practice approaches. 1.7 Review statewide laws to improve safety for active transportation on the road network.</p> <p>Goal Area Three: Maintenance and System Preservation <u>Objectives:</u> 3.1 Provide safer and more convenient active transportation provisions during construction activities.</p> |
| <p>Livability, Community, and the Environment: Incorporate livability, community, and environmental considerations into planning, delivering, operating and maintaining the Alaska Transportation System.</p> | <p>Goal Area Two: Health <u>Objectives:</u> 2.1 Collaborate with other organizations connected to or part of the health care and community services industry to promote active transportation and help design facilities that meet community health needs. 2.2 Promote active transportation use as a viable means to improve health among Alaskans.</p> |

| L RTP Goal | ASATP Goal Area/Objective |
|---|--|
| | <p>Goal Area Three: Maintenance and System Preservation <u>Objectives:</u> 3.4 Encourage “Adopt a Trail” and “Adopt a Road” initiatives in all communities and with the private sector to support the maintenance of all active transportation facilities.</p> <p>Goal Area Four: Connectivity <u>Objectives:</u> 4.1 Support education, encouragement and enforcement initiatives. 4.5 Establish and identify active transportation connections through public lands.</p> <p>Goal Area Five: Economic Development <u>Objectives:</u> 5.1 Encourage facilities for active transportation users in private and public premises. 5.2 Establish comfortable and safer active transportation connections to activity centers. 5.4 Create transportation systems that encourage natural movement for daily activities and encourage active transportation, in conjunction with broader community and infrastructure development planning.</p> |
| <p>Results-Based Alignment for Transportation System Performance: Ensure broad understanding of the level, source, and use of transportation funds available to DOT&PF; provide and communicate the linkages between this document, area transportation plans, asset management, other plans, program development, and transportation system performance.</p> | All goal areas and objectives. |

The ASATP will also support the delivery of several policies and actions identified in the LRTP. Table E.2 summarizes relevant policies and actions and supporting ASBPP policies and recommendations.

Table E.2: How the ASATP will support delivery of the LRTP

| L RTP Policy | L RTP Action | How ASATP will support delivery of LRTP |
|---|---|---|
| <p>Policy 1.A: Develop the multimodal transportation system to provide safe, cost-effective, and reliable accessibility for people and freight. We will identify multimodal solutions and regional priorities for the development of the transportation system through area, corridor and modal plans that appropriately and realistically</p> | <p>1.5 Address increasing pedestrian, bicycle, and transit demands in urban areas through the MPO, corridor, and local planning process (Priority 1). 1.6 Incorporate travel demand management and multi-modal</p> | <p>The ASATP sets out a framework for the encouragement of, and provision of quality facilities for bicyclists and pedestrians throughout the state. Elements include ensuring the provision of facilities as part of all projects (except for resurfacing projects) and encouraging the implementation of design best practices when constructing facilities. The ASATP also promotes consideration of the role of active transportation as part of the multi-</p> |

| L RTP Policy | L RTP Action | How ASATP will support delivery of L RTP |
|---|---|---|
| <p>address the values of communities and stakeholders.</p> <p>We will address efficient intermodal connections between roads, airports, rail, harbors, transit terminals, and bicycle and pedestrian facilities through area, corridor and modal plans to improve asset utilizations, safety, reliability, and the cost-effective movement of people and freight.</p> <p>We will evaluate projects for funding by considering the overall benefits and costs to the state in meeting Long-Range Transportation Plan New Facilities and Modernization goals.</p> | <p>solutions into transportation plans at all levels (Priority 1).</p> | <p>modal transportation network and ensuring recognition of active transportation as a legitimate transportation mode, and easy connection to other transportation modes including transit.</p> |
| <p>Policy 2.B: Increase understanding of, and communicate DOT&PF's responsibilities for, system preservation as the owner of highways, airports, harbors, marine terminals, and vessels.</p> <p>...</p> <p>We will address bicycle and pedestrian needs as part of system preservation and modernization.</p> <p>...</p> | <p>None.</p> | <p>The ASATP sets out a policy framework for the provision of facilities to support active transportation. This includes incorporating design best practices into facilities and supporting the creation of a transportation system that encourages and supports active transportation.</p> |
| <p>Policy 4.B: Preserve and operate Alaska's multimodal transportation system to provide efficient and reliable access to and from local, national and international markets to support economic development goals.</p> <p>We will focus on preserving and modernizing the existing system while recognizing that system development is also necessary in Alaska.</p> <p>We will maintain and operate the system to provide acceptable reliability and performance.</p> <p>...</p> | <p>None.</p> | <p>The ASATP is supportive of encouraging, establishing and increasing awareness of facilities for active transportation in Alaska to reduce household costs and as a tourism opportunity for the state.</p> |

··· Appendix F

Investment Decision Criteria



Relationship between ASATP Goal Areas, Objectives, Performance Measures, and Investment Decision Criteria

| Goal Area | Objective | Performance Measure | Investment Decision Criteria |
|------------------------------|--|---|---|
| Goal Area One: Safety | 1.1 Reduce the number and severity of conflicts between people bicycling, walking and driving. | 1.1 Reduction in the number of fatal or serious injury collisions involving bicyclists and pedestrians in the last five years, as both a rolling average and percentage of total collisions. | <ul style="list-style-type: none"> Reduces crash rate or potential threat of crashes Reduces severity of crashes |
| | 1.2 Design the active transportation network, including roads, to enhance safety for non-motorized users using current state of the practice approaches. | 1.1 Reduction in the number of fatal or serious injury collisions involving bicyclists and pedestrians in the last five years, as both a rolling average and percentage of total collisions. 1.2 Percentage of funding dedicated to new or rehabilitated roadways including bicycle and pedestrian facilities compared to total funding of roadway projects. | <ul style="list-style-type: none"> Reduces crash rate or potential threat of crashes Reduces severity of crashes Integrates best practices into facility design |
| | 1.3 Integrate design criteria that incorporate best practices into local, regional and statewide design guidance documents and the Alaska Highway Preconstruction Manual. | 1.2 Percentage of funding dedicated to new or rehabilitated roadways including bicycle and pedestrian facilities compared to total funding of roadway projects. | <ul style="list-style-type: none"> Integrates best practices into facility design |
| | 1.4 Include provisions for the safer movement of active transportation on roadway segments that are being reconstructed or rehabilitated (except for curb-to-curb mill and pave projects). | 1.2 Percentage of funding dedicated to new or rehabilitated roadways including bicycle and pedestrian facilities compared to total funding of roadway projects. | <ul style="list-style-type: none"> Reduces crash rate or potential threat of crashes Reduces severity of crashes |
| | 1.5 Improve facilities and wayfinding throughout Alaska to encourage walking and bicycling as a primary transportation mode. | 1.2 Percentage of funding dedicated to new or rehabilitated roadways including bicycle and pedestrian facilities compared to total funding of roadway projects. | <ul style="list-style-type: none"> Integrates best practices into facility design |
| | 1.6 Streamline and improve bicycle and pedestrian data collection efforts across Alaska. | | <ul style="list-style-type: none"> Increases DOT&PF's ability to gather and use data to prioritize projects |
| | 1.7 Review statewide laws to improve safety for active transportation on the road network. | 1.2 Reduction in the number of fatal or serious injury collisions involving bicyclists and pedestrians in the last five years, as both a rolling average and percentage of total collisions. | <ul style="list-style-type: none"> Reduces crash rate or potential threat of crashes Reduces severity of crashes |
| Goal Two: Health | 2.1 Collaborate with other organizations connected to or part of the health care and community services industry to promote active transportation and help design facilities that meet community health needs. | | <ul style="list-style-type: none"> Provides the opportunity to reduce disease/obesity in children, adults and seniors Provides mobility options for underserved populations Provides safe active transportation to schools and learning centers Provides pedestrian mobility for seniors and disabled persons |
| | 2.2 Promote active transportation use as a viable means to improve health among Alaskans. | 3.1 Percent change in average minutes of physical activity per day per capital over a five-year period, as measured by the Alaska Department of Health and Social Services. 3.2 Percentage of Health Regions meeting Healthy Alaska Benchmarks by 2020. | <ul style="list-style-type: none"> Provides the opportunity to reduce disease/obesity in children, adults and seniors Provides mobility options for underserved populations Provides safe active transportation to schools and learning centers Provides pedestrian mobility for seniors and disabled persons |

| Goal Area | Objective | Performance Measure | Investment Decision Criteria |
|--|---|--|--|
| Goal Area Three: Maintenance and System Preservation | 3.1 Provide safer and more convenient active transportation provisions during construction activities. | | <ul style="list-style-type: none"> Improves conditions for walking and bicycling Completes or connects an active transportation network or system |
| | 3.2 Encourage coordination between transportation organizations to improve maintenance, including winter snow removal on active transportation facilities. | | <ul style="list-style-type: none"> Funds are available (federal, state, local, other agency or user) to cover the capital cost of the active transportation facility Funds are available (federal, state, local, other agency or user) to cover the costs of operation and maintenance of the active transportation facility Improves conditions for walking and bicycling Completes or connects an active transportation network or system Provides potential to reduce motor vehicle congestion |
| | 3.3 Encourage maintenance of facilities to be a key consideration in the design of active transportation facilities. | | <ul style="list-style-type: none"> Funds are available (federal, state, local, other agency or user) to cover the costs of operation and maintenance of the active transportation facility Improves conditions for walking and bicycling Completes or connects an active transportation network or system |
| | 3.4 Encourage "Adopt a Trail" and "Adopt a Road" initiatives in all communities and with the private sector to support the maintenance of all active transportation facilities. | 3.1 Miles of roadways and trails adopted through Adopt a Trail/Adopt a Road initiatives. | <ul style="list-style-type: none"> Funds are available (federal, state, local, other agency or user) to cover the costs of operation and maintenance of the active transportation facility Improves conditions for walking and bicycling Completes or connects an active transportation network or system Provides potential to reduce motor vehicle congestion |
| Goal Area Four: Connectivity | 4.1 Identify and address gaps in the non-motorized transportation network, including where facilities need repair to facilitate a connection or for access. | | <ul style="list-style-type: none"> Provides continuous walking and biking facilities on scenic byways Improves connection or access to other modes of transportation (multi-modal connectivity) |
| | 4.2 Encourage the use of technology to enhance connectivity. | | <ul style="list-style-type: none"> Encourages mapping of facilities and sharing information using technology and interactive platforms Improves connection to other modes of transportation (multi-modal connectivity) |
| | 4.3 Support education, encouragement and enforcement initiatives. | | <ul style="list-style-type: none"> Encourages mapping of facilities and sharing information using technology and interactive platforms |
| | 4.4 Identify and encourage multi-modal transportation opportunities. | 4.1 Percent of commute trips completed by walking or bicycling, as determined by American Community Survey data. | <ul style="list-style-type: none"> Encourages mapping of facilities and sharing information using technology and interactive platforms Provide continuous walking and biking facilities on scenic byways Improves connection to other modes of transportation (multi-modal connectivity) Provides multi-use pathways near population centers |

| Goal Area | Objective | Performance Measure | Investment Decision Criteria |
|--------------------------------------|--|--|---|
| | 4.5 Establish and identify active transportation connections through public lands. | 4.1 Miles of state-owned active transportation facilities, including trails, sidewalks, and designated bicycle facilities. | <ul style="list-style-type: none"> • Encourages mapping of facilities and sharing information using technology and interactive platforms • Creates access to public lands |
| Goal Area Five: Economic Development | 5.1 Encourage facilities for active transportation users in private and public premises. | | <ul style="list-style-type: none"> • Improves non-motorized access to employment centers • Provides the opportunity to induce a mode shift to bicycling and walking for short trips • There is public support for the active transportation facility |
| | 5.2 Establish comfortable and safe active transportation connections to activity centers. | | <ul style="list-style-type: none"> • Improves non-motorized access to employment centers • Induces a mode shift to bicycling and walking for short trips |
| | 5.3 Increase awareness of Alaska's active transportation network. | 5.1 Number of communities with current active transportation plans and Safe Routes to School Programs. | <ul style="list-style-type: none"> • Bolsters tourism • Induces a mode shift to bicycling and walking for short trips |
| | 5.2 Create transportation systems that encourage natural movement for daily activities and encourage active transportation, in conjunction with broader community and infrastructure development planning. | 4.1 Miles of state-owned active transportation facilities, including trails, sidewalks, and designated bicycle facilities. 5.2 Percent of commute trips completed by walking or bicycling, as determined by American Community Survey data. | <ul style="list-style-type: none"> • Improves non-motorized access to employment centers • Bolsters tourism • Provides the opportunity to induce a mode shift to bicycling and walking for short trips • There is public support for the active transportation facility |